College of San Mateo

1970-1971

Catalog

College of San Mateo

A community junior college
accredited by the
Western Association
of Schools and Colleges

Catalog 1970-71

1700 West Hillsdale Boulevard, San Mateo, California 94402
Day Phone: 341-6161 Evening Phones: 341-1474—341-2525

Foreword

TO THE STUDENTS OF COLLEGE OF SAN MATEO:

Welcome to the start of the most exciting period of your life: your college education.

Whether you are at College of San Mateo to complete one of our two-year programs or to prepare for transfer to a four-year institution, you will find the opportunities for growth and development at this college to be limitless.

You will discover that, like the facilities, the education opportunities at CSM are second to none, and that you will have the opportunity to grow both personally and intellectually through our co-curricular programs.

I encourage you to seize these opportunities and to make the most of them. I, the staff and faculty will make the most of our chance to provide the very best education this college can offer.

Robert L Ewigleben

ROBERT L. EWIGLEBEN
President

Table of Contents

Calendar for 1970-71

June 13 . . . . English placement and aptitude examinations (8 a.m.)

June 22 . . . . Summer session, 1970, classes begin

July 3 . . . . Independence Day holiday

July 18 . . . . English placement and aptitude examinations (8 a.m.)

July 31 . . . . Summer session six-week classes close

August 8 . . . English placement and aptitude examinations (8 a.m.)
Foreign language placement examinations (2 p.m.)

August 17 - 28 . . Counseling and registration, fall semester, 1970

August 14 . . . Summer session eight-week classes close

August 27, 28 . . Registration for special students (9 a.m.)

Fall Semester

September 1 - 3 . . Counseling and registration

September 7 . . . Labor Day holiday

September 8 . . . Faculty meetings

September 9 . . . Admission Day holiday

September 10 . . Day classes begin

September 14 . . Evening classes begin

September 23 . . Last day to add new classes

September 23 . . Last day to drop a class without penalty

October 16 . . . Applications available for spring, 1971, semester

October 30 . . . End of midterm grading period

November 11 . . Veterans' Day holiday

November 13 . . Last day to apply for fall graduation

November 20 . . Last day to drop a class without counselor's approval

November 26 - 28 . Thanksgiving recess

December 12 . . English placement and aptitude examinations (8 a.m.)
Foreign language, cosmetology and commercial pilot examinations (2 p.m.)

Calendar for 1970-71

December 21-Jan. 1	Winter recess
January 2	English placement and aptitude examinations (8 a.m.) Foreign language placement examinations (2 p.m.) Nursing aptitude examinations (2 p.m.)
January 13 - 22	Final examinations
	Counseling and registration, new and returning students
January 15	Evening College classes close
January 22	Day College classes close

Spring Semester

January 25, 26	Counseling and registration
January 27, 30	Between-semesters recess
February 1	Day and evening classes begin
February 12	Lincoln's Birthday holiday
February 15	President's Day holiday
February 16	Last day to drop a class without penalty and last day to add new classes
March 15	Applications available for fall, 1970, semester
April 2	End of midterm grading period
April 5-10	Spring recess
April 16	Last day to apply for June graduation
April 17	English placement and aptitude examinations (8 a.m.) Nursing, cosmetology, commercial pilot and Spanish examinations (2 p.m.)
April 24	Last day to drop a class without counselor's approval
April 24	English placement and aptitude examinations (8 a.m.) Nursing, commercial pilot, French and German examinations (2 p.m.)
May 1	English placement and aptitude examinations (8 a.m.) Spanish examination (2 p.m.)

Calendar for 1970-71

May 8	English placement and aptitude examinations (8 a.m.) French and German examinations (2 p.m.)
May 15	English placement and aptitude examinations (8 a.m.)
May 31	Memorial Day holiday
June 1 - 10	Final examinations
June 4	Evening College classes close
June 10	Day College classes close
June 12	English placement and aptitude examinations (8 a.m.)

Board of Trustees

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Attorney

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Assistant Superintendent for Business Affairs
Matteo V. Fasanaro

COLLEGE OF SAN MATEO STAFF

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Robert L. Ewigleben

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Frank C. Pearce

Dean of Student Affairs
Allan R. Brown

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Eric Gattmann

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Charles M. Devonshire

Testing and Guidance
Edmond O. Shinn

Health Services
Yolande S. Hilpisch

Community Relations Assistant
Albert G. Boardman,Jr.

CHAIRMEN, DAY DIVISIONS

Aeronautics
John P. Nystrom

Business Education
Thomas W. George

Cosmetology
Lorraine Bush

English
John M. Gill

Ethnic Studies
Zelte Crawford

Fine Arts
Jack Daniels

Foreign Languages
to be appointed

Health Occupations
Anne M. Grubbs

Life Science
Samuel A. Ferguson

Math-Engineering
Calvin B. Apter

Physical Education
Clifford G. Giffin

Physical Science
to be appointed

Social Science
to be appointed

Technician
Albert K. Fine

College Faculty

1970 - 1971

(Date of original appointment follows name.)

Acena, Albert A. (1966)
History
B.A., Seattle University
M.A., University of Washington

Alexander, Marvin (1966)
Education
B.A., Pennsylvania State University
M.A., Stanford University

Alexander, W. Jeanne (1965)
English
B.A., M.A., Washington University, St. Louis

Alexandre, Alvin A. (1961)
English Journalism
B.A., M.A., New York University

Allende, David H. (1967)
Art
B.A., M.A., University of Tulsa

Anderson, Claude M. (1947)
Astronomy
A.B., A.M., Ph.D., University of Calif., Berkeley

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

Appleton, Alanson (1961)
Art
A.B., California College of Arts and Crafts
M.A., University of Calif., Berkeley

Apter, Calvin B. (1955)
Chairman of Mathematics-Engineering Division
A.B., M.A., University of Calif., Berkeley

Avina, Jack F. (1962)
Physical Education
A.B., A.M., San Jose State College

Baker, Mary J. (1967)
Biology
A.B., University of Calif., Berkeley
M.A., San Francisco State College

Balsley, Raymond I. (1946)
Physical Education
A.B., University of Calif., Berkeley
A.M., Stanford University

Banks, Angela S. (1964)
Physical Education
B.A., Miami University
M.A., San Francisco State College

Bardes, Leo N. (1965)
Music
B.A., M.A., San Francisco State College

Bartges, Rex J. (1965)
Biology
A.B., San Jose State College
M.S., Ph.D., University of Calif., Berkeley

Batch, Robert W. (1965)
Physics, Chemistry
B.S., Tufts University
M.S., Northeastern University

Beale, Paul L. (1963)
Business
B.S., M.B.A., Stanford University

Beaty, Donald E. (1967)
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

Benjamin, Agnes E. (1969)
Cosmetology

Berensmeier, Barbara Jean (1956)
Physical Education
A.B., San Francisco State College

Berglund, John J. (1965)
Aeronautics

Berry, Daniel A. (1958)
Business Administration
B.S., Armstrong College
A.B., M.A., University of Calif., Berkeley

Berry, Frederick J. (1968)
Music
B.M., M.M., Southern Illinois University

Berryhill, Helen C. (1954)
English, Counselor
B.A., University of Calif., Berkeley
M.A., San Francisco State College

Beuttler, Rose Marie P. (1965)
French
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 College
M.A., San Francisco State College

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

Blanchette, Jeanne (1966)
A.A. Nursing
B.S., M.Ed., University of Minnesota

Blostein, Paul J. (1969)
Librarian
B.A., University of Calif., Berkeley
M.A., University of Denver

Blust, Dale W. (1965)
Aeronautics, Counselor

Blust, Kenneth E. (1966)
Aeronautics

Boone, John R. (1968)
Telecommunications
B.S., University of Oregon

Bouras, Aristotle (1962)
Librarian
B.A., Fresno State College
M.A., University of Denver

Brames, Thomas J. (1964)
Electronics Technology

Bramlett, George E. (1969)
Electronics Technology
B.A., Fresno State College
M.A., San Jose State College

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

Brown, Allan R. (1959)
Dean for Student Affairs
A.B., A.M., Stanford University

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

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

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

Burris, Jack R. (1968)
English
B.A., M.A., San Francisco State College

Burton, Kathleen M. (1968)
Business
B.S., University of Wyoming

Burton, Virginia (1950)
Chairman of Women's Physical Education Department
A.B., MacMurray College
A.M., Teachers College, Columbia University

Bush, Lorraine (1953)
Chairman of Cosmetology Division, Counselor

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

Callahan, Lois A. (1968)
Business
B.S., Southwest Missouri State College
M.A., Chico State College

Callejo, Ricardo A. (1969)
Ethnic Studies
B.A., University of Calif., Los Angeles
L.L.B., University of Calif., Berkeley
J.D., Hastings College of Law
Doctorate, University of Paris, France

Cameron, Daniel B. (1968)
English
B.A., Hunter College
M.A., Columbia University

Camps, Albert (1967)
Electronics Technology

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

Casstevens, Jewell (1963)
Cosmetology

Castillo, Richard P. (1969)
Spanish
B.A., University of Calif., Berkeley

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

Cate, Donald T. (1969)
Drama
B.A., Hobart College
M.F.A., Stanford University

Chowenhill, Dean F. (1967)
Drafting Technology
B.A., M.A., San Jose State College

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

Chroman, Peter (1969)
Sociology
B.S., University of Illinois

Clark, Fred J. (1963)
Physics
A.B., University of Calif., Los Angeles
A.M., Stanford University

Clark, Joseph E. (1965)
History, Political Science
A.B., Ph.D., Stanford University
M.A., State University of Iowa

Clemens, Michael J. (1967)
Political Science
A.B., M.A., Columbia University

Clemens, Roger W. C. (1957)
Forestry, Counselor
B.S., M.S., University of Calif., Berkeley

Clinkscales, J. Kyle (1957)
Chemistry
B.S., University of Calif., Berkeley
M.S., University of Pacific

Clinton, Harry F. (1961)
Business
B.S., Oregon State University
M.S., University of Southern California

Cohn, Adrian A. (1963)
English
B.S., M.S., Ph.D., University of Wisconsin

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

Cornahrens, Margaret (1940)
Business, Counselor
A.B., University of Calif., Berkeley
M.A., Columbia University

Cortopassi, Lynne M. (1969)
Librarian
B.S., Michigan State University
M.A.L.S., University of Michigan

Coulson, Robert N. (1965)
Machine Tools Technology
A.B., San Francisco State College
M.A., San Francisco State College

Countee, Charles E. (1969)
Head, College Readiness Program
A.B., Stanford University

Coyne, Robert J. (1963)
Art, Photography
B.A., M.A., San Francisco State College

Crawford, Douglas B. (1960)
Mathematics, Counselor
A.B., A.M., Stanford University

Crawford, Zelte (1969)
Chairman, Ethnic Studies Division
B.S., M.A., Western Michigan

Crest, Richard L. (1958)
Music
B.A., San Jose State College

Cron, John A. (1968)
Business
A.B., M.A., San Francisco State College

Crouch, Dorothy J. (1968)
Biology
A.B., University of Calif., Berkeley
M.A., Ph.D., Stanford University

Cummings, Marlene M. (1965)
Nursing
B.S., R.N., College of St. Scholastica

Curren, Terence B. (1962)
Biology, Physical Anthropology
B.A., University of Calif., Berkeley
M.A., San Francisco State College

Daniels, Jack (1946)
Chairman of Fine Arts Division, Counselor
A.B., San Jose State College
A.M., Stanford University

Davidson, Marcia A. (1960)
Business, Counselor
B.A., M.A., Michigan State University

Davis, Gregory (1966)
Political Science
A.B., A.M., Stanford University

De Freitas, Louis (1966)
Welding Technology

De Gregorio, Michael J. (1957)
Chemistry
A.B., A.M., San Francisco State College

De Hart, William R. (1964)
Technical Illustration
B.A., University of New Mexico
M.A., University of Iowa

Dehnel, George S. (1962)
Biology, Botany, Life Science
B.A., San Diego State College
Ph.D., University of Calif., Berkeley

de la Rocha, Gilberto (1968)
Assistant Dean, Cooperative Education
B.A., Sacramento State College

Devonshire, Charles M. (1958)
Psychology, Psychological Services
B.A., M.A., University of Texas

Dickey, William J. (1965)
Physical Education
B.S., Utah State University

Donner, Richard C. (1963)
Physical Education
B.A., M.A., San Jose State College

Dooley, John B. (1963)
Assistant Dean of Instruction for Library Services
B.A., M.A., B.L.S., University of Calif. Berkeley

Duncan, David L. (1969)
Technical Drafting
B.A., San Jose State College

Durham, Howard E. (1956)
Foreign Student Advisor
A.B., A.M., University of Washington

Edmundson, James S. (1964)
French
B.A., University of Washington
B.S., Georgetown University
M.A., University of Washington
Ph.D., Columbia University

Ewigleben, Robert L. (1968)
President
B.S., M.A., Ed.D., Michigan State University

Failli, Joseph N. (1964)
Librarian
Graduate, University of Florence
M.L.S., University of Calif., Berkeley

Fark, Roland H. (1969)
Biology
B.S., M.A., Bowling Green

Fellows, Ward J. (1966)
Philosophy
A.B., Cornell University
B.D., S.T.M., Union Theological Seminary
M.A., University of Calif., Berkeley

Ferguson, Samuel A. (1968)
Chairman, Life Science Division
Anatomy, Physiology
B.A., Oakwood College
Ph.D., University of Pennsylvania

Fine, Albert K. (1956)
Chairman, Technician Division
A.B., University of Calif., Santa Barbara
A.M., Stanford University
Ed.D., Stanford University

Fishback, Dell M. (1939)
Health Education, Counselor
A.B., University of Calif., Berkeley

Fisher, Anita (1969)
Psychology
B.A., University of Southern Calif.
Ph.D., Stanford University

Fitzgerald, Maurice J. (1964)
English
B.S., A.M., Stanford University

Foley, Helen M. (1963)
Coordinator, Community Programs
A.B., Reed College

Fountain, Aline (1965)
Guidance, Counseling
B.S., Florida State University
M.A., San Francisco State College (Education)
M.A., San Francisco State College (Counseling and Psychology)

Fouts, Carol A. (1964)
Physical Education
A.B., University of Calif., Santa Barbara
M.A., San Francisco State College

Fraker, Wilson P. (1968)
Business
A.B., Harvard University
M.B.A., University of Calif., Berkeley

Frassetti, Gerald J. (1967)
English, Counselor
B.A., St. Mary's College
M.A., San Francisco State College

Free, Herbert W. (1967)
Business, Real Estate
A.B., M.A., University of Calif., Berkeley

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)
Associate Dean of Instruction, Director of Evening College
A.B., University of Calif., Berkeley
M.A., San Francisco State College

George, Thomas W. (1966)
Chairman, Business Division
B.A., M.A., Texas Technological College
Ph.D., University of Washington

Gibb, Robert F. (1969)
Electronics Technology
B.A., Whittier College

Giffin, Clifford G. (1958)
Chairman, Physical Education Division
B.S., M.S., University of Oregon

Gill, John M. (1969)
Chairman, English Division
B.A., M.A., University of Washington
Ph.D., New York University

Gjerdrum, Bernard A. (1947)
Associate Dean of Instruction
B.S., University of Santa Clara
M.S., University of Southern Calif.

Glazier, Teresa F. (1961)
English
B.Ed., Western Illinois University
M.A., University of Chicago

Glen, William (1957)
Geology, Paleontology, Counselor
B.S., Brooklyn College
M.A., University of California

Goldman, Helen M. (1967)
Business
B.N., R.N., Providence College of Nursing, Oakland
B.A., San Francisco State College

Gomes, Moni M. (1969)
Nursing
B.S., University of Oregon

Gossett, Gilbert B. (1955)
Mathematics
B.A., M.A., University of Pacific

Graham, Alexander (1966)
Vocational Gardening
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, Art, Counselor
A.B., Barnard College
A.M., Stanford University

Grossenbacher, Karl (1969)
Biology
Ph.B., University of Wisconsin
Ph.D., University of Calif., Berkeley

Grubbs, Anne M. (1960)
Chairman of Health Occupations Division, Counselor
A.B., Fresno State College
R.N., Fresno County General Hospital
M.N., University of Washington

Gum, H. Sanford (1963)
Assistant Dean, Evening College
A.B., San Jose State College
A.M., Stanford University

Gustavson, Charles F. (1966)
Music
A.B., M.A., San Francisco State College

Haight, Charles Henry (1958)
History
B.A., A.M., University of Calif., Berkeley
Ph.D., Stanford University

Halualani, Jennie (1963)
Vocational Nursing
B.S., St. Mary's College
R.N., St. Francis Hospital School of Nursing

Hanigan, Jane E. (1958)
English
A.B., University of Calif., Berkeley
M.A., San Francisco State College

Hansen, Merrill C. (1957)
Speech
B.A., University of Utah
A.M., Ph.D., Stanford University

Hardt, James R. (1964)
English
A.B., University of Massachusetts
A.M., Harvard University

Harrington, Joyce M. (1969)
Nursing
B.S.N., Seattle University
Ph.N., Univ. of Calif., San Francisco

Harriman, William (1963)
English
A.B., M.A., J.D., University of Calif. Berkeley

Harris, Edward M. (1968)
Mathematics
B.S., University of Colorado
M.A., San Francisco State College

Harris, Richard V. (1965)
Physical Education
A.B., M.A., Humboldt State College

Harrison, Kenneth W. (1969)
Music
B.A., University of Southern Calif.
M.A., San Francisco State College

Hazelton, Louise B. (1960)
English, History, Counselor
B.A., University of Calif., Los Angeles
M.A., Fresno State College

Hecomovich, John (1947)
Electronics Technology, Counselor
Dunwoody Technical Institute

Henderson, Frances C. (1967)
A.A. Nursing
B.S., Dillard University
M.S., University of Calif., San Francisco

Heyeck, Robin R. (1965)
English
A.B., A.M., Stanford University

Hills, Dorothy (1968)
Child Development
B.S., University of Oregon

Hilpisch, Yolande S. (1968)
College Nurse
A.B., Stanford University
R.N., Stanford University School of Nursing
P.H.N., M.S., University of Calif., San Francisco

Hocker, Woodson F. (1964)
Spanish
B.S., United States Military Academy
M.A., Universidad Nacional Autonoma de Mexico

Holmes, Paul C. (1964)
English
B.A., University of Calif., Berkeley
M.A., San Francisco State College

Holmgren, Roy H. (1957)
Mathematics
A.B., M.A., University of Calif., Berkeley

Hopkins, Cecilia Ann (1958)
Chairman of Real Estate Department, Counselor
B.S., Montana State College
M.A., San Francisco State College (Business Education)
M.A., San Francisco State College (Counseling)

Horn, Clifford V. (1947)
Business
A.B., San Jose State College
A.M., Stanford University

Howe, Robert S. (1965)
Guidance, Counselor
A.B., San Jose State College
A.M., Stanford University

Hubbard, Kenneth R. (1968)
Aeronautics

Hudson, Herbert H. (1947)
Physical Education, Counselor, Director of Athletics
A.B., San Jose State College
A.M., Stanford University

Husted, Margreta S. (1955)
Chemistry
B.S., Nebraska State Teachers College
M.A., San Jose State College

Hynding, Alan A. (1967)
History
B.S., University of Oregon
M.A., Stanford University
Ph.D., University of Washington

Ice, James A. (1946)
Chemistry
A.B., Arizona State University
M.A., University of Calif., Berkeley

Ingalls, Richard E. (1970)
Audio-Visual Services
B.A., M.A., San Francisco State College

Ingraham, Joeann (1962)
Physical Education
A.B., San Jose State College

Innis, James E. (1967)
Health Education
A.B., M.A., Colorado State College

Ireson, Mamie G. (1963)
Home Economics
B.S., University of Virginia
M.S., Virginia Polytechnic Institute

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 College

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 College

Jeffers, Mary L. (1963)
Political Science
A.B., M.A., Tennessee State Univ.

Jeppson, Joseph H. (1963)
History
B.S., University of Utah
A.M., Stanford University
J.D., University of Utah

Jewett, Julia K. (1969)
Counselor, College Readiness Program
B.A., Tougaloo College
M.S., Calif. State College, Hayward

Jorgenson, Wallace (1969)
Aeronautics

Joslin, Rex J. (1964)
Biology
B.S., Wisconsin State College
M.S., University of Illinois

Justesen, Mildred S. (1964)
Political Science
A.B., San Francisco State College
A.M., Stanford University

Justice, William J. (1946)
Business Administration, Counselor, R.O.T.C. Advisor
B.S., M.C.S., Boston University
Ed.D., Stanford University

Karl, John E. Jr. (1962)
Anatomy, Physiology
B.A., Alleghany College
M.S., University of Kentucky
Ph.D., Louisiana State University

Kaufman, Ronald H. (1950)
Spanish
A.B., Hiram College
A.M., Stanford University

Kaufmann, Walter M. (1966)
Sociology, Psychology
B.A., J.D., University of Calif., Berkeley

Kellejian, Robert (1962)
Electronics Technology
A.B., M.A., San Francisco State College

Keller, Robert M. (1958)
Chemistry
A.B., M.A., San Jose State College

Kennelly, Thomas W. (1966)
Psychology
B.A., M.A., University of Buffalo
Ph.D., Columbia University

Keys, Noel W. (1966)
Psychology
B.S., Denison University
M.A., Duke University
Ph.D., University of North Carolina

Kimball, Michael B. (1968)
English
B.A., Stanford University
M.A., San Francisco State College

Kirk, John R. (1969)
Economics
B.A., University of Calif., Berkeley
M.A., San Jose State College

Kolber, Marvin A. (1946)
Zoology, Biology
B.S., M.S., University of Calif., Berkeley

Kusich, Edward A. (1946)
Engineering, Mathematics
B.S., M.S., University of Calif., Berkeley

Langston, Claire (1962)
Dental Assisting, Counselor

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

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, Counselor
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 College

Linder, Doris H. (1967)
B.A., M.A., Stanford University
Ph.D., University of Minnesota

Lokken, Arlys K. (1963)
Vocational Nursing
R.N., University of North Dakota School of Nursing
B.S., University of North Dakota

Lorenzato, Raymond (1965)
Art
B.A., Humboldt State College
M.F.A., Calif. College of Arts and Crafts

MacDonald, Lorne (1968)
Electronics Technology
B.S., Pacific States University

Mainwaring, Shirley M. (1968)
Health Education
B.A., University of North Carolina at Greensboro
M.A., Stanford University

Makowsky, Michael A. (1969)
Sociology
B.A., New York University
M.A., University of Calif., Berkeley

Mantabe, Musonda D. (1969)
Counselor, College Readiness Program
B.A., Syracuse University

Marshall, R. Galen (1964)
Music
A.B., M.A., San Francisco State College

Martin, Chauncey J. (1967)
Machine Tools Technology

Maxwell, Allan H. (1969)
Electronics Technology
A.B., San Jose State College
M.A., San Francisco State College

McClure, Clois A. (1963)
Technical Drafting, Counselor
A.B., Fresno State College
M.A., San Francisco State College

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)
Vocational Nursing
B.S., University of Dayton, Ohio
R.N., St. Elizabeth's Hospital, Ohio

Meek, Austen B., Jr. (1968)
Mathematics
B.A., San Jose State College
M.A., Bowdoin College

Mendenhall, Valdemer A., Jr. (1967)
Aeronautics

Mertes, David H. (1965)
Dean of Community Services
B.A., San Francisco State College
M.A., Ph.D., University of Calif., Berkeley

Michael, Robert E. (1965)
Business Administration
B.S., M.S., San Jose State College
B.F.T., American Institute for Foreign Trade

Miller, James C. (1969)
Manufacturing Technology
B.A., San Jose State College

Miller, William H. (1961)
History
A.B., College of Wooster
M.A., Ph.D., University of Calif., Berkeley

Monroe, Howard C. (1961)
Biology, Counselor
B.S., University of Toledo
M.A., University of Calif., Los Angeles

Montgomery, Douglas B. (1963)
Head of Telecommunications Dept.
B.S., M.A., San Diego State College

Montgomery, John A. (1964)
Business Administration, Counselor
B.S., LL.B., University of Pennsylvania

Morse, Philip D. (1940)
Dean of Student Services, Counselor
A.B., Occidental College
M.A., University of Calif., Berkeley

Mulhall, Mary Ellen (1963)
Business, Counselor
B.A., San Francisco State College
M.A., University of San Francisco

Mullaney, Ellentine M. (1964)
English
B.A., University of Washington
M.A., San Francisco State College

Mullen, Edward C. (1955)
English
A.B., M.A., San Jose State College

Mullen, John F. (1966)
Mathematics, Data Processing
B.S., Stanford University
M.A., University of Calif., Riverside

Multhaup, 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

Murdock, Frank G.
History
B.A., M.A., Univ. of Calif., Berkeley

Murphy, Alexander J. (1956)
English, Counselor
A.B., A.M., Stanford University

Nelson, Eugene A. (1969)
Telecommunications
B.S., Syracuse University

Noce, John L. (1961)
Physical Education
A.B., University of Pacific
M.A., San Francisco State College

Nystrom, John P. (1962)
Chairman, Aeronautics Department, Counselor

Odum, Daniel C. (1964)
Telecommunications
A.B., San Diego State College

Olson, Robert A. (1956)
English
B.S., Wisconsin State College
M.A., San Jose State College

O'Mahony, Rosalie M. (1965)
Mathematics
B.S., Loyola University
M.S., University of Notre Dame

Orozco, Adrian (1969)
Counselor, College Readiness Program
S.T.B., St. Alexis College, Rome, Italy

Owen, William H. (1963)
Machine Tools Technology
A.B., M.A., San Francisco State College

Palmer, Cecelia (1969)
English
B.A., Langston University
M.S., Oklahoma State University
Ed.D., Oklahoma State University

Pearce, Frank C. (1967)
Dean of Instruction
B.S., M.Ed., University of Calif., Davis
Ph.D., Cornell University

Petelin, Zoia V. (1963)
Cosmetology

Petit, Susan Y. (1968)
English
B.A., Knox College
M.A., Purdue 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, Counselor
A.B., M.A., University of Calif., Berkeley

Pinney, Wilson G. (1961)
English
A.B., Trinity College
Ed.M., Harvard University

Polansky, Stephen H. (1968)
Political Science
B.A., Princeton University
LL.B., Harvard Law School

Porter, Donald T. (1963)
Philosophy
B.S., M.A., University of Calif., Berkeley

Price, Dolores (1967)
Physical Education
B.S., M.Ed., Oregon State University

Prindle, Philip G. (1958)
Speech, English
B.A., Concordia College, Minnesota
M.A., Washington State University

Prochaska, Harry W. (1950)
Art, Counselor
A.B., Occidental College
M.A., San Francisco State College

Pumphrey, A. Jean (1967)
English
B.A., Denison University
M.A., San Francisco State College

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

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

Rempel, Elizabeth K. (1956)
Architecture, Art
B.A., Mills College
M.A., San Francisco State College

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

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

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

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

Rue, Betty B. (1961)
Dental Assisting, Counselor

Ruffin, Jeannette J. (1955)
Speech, English
A.B., San Francisco State College
A.M., Stanford University

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

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

Sachen, George F. (1967)
Aeronautics

Samuels, Thomas (1969)
Psychology
B.A., Vanderbilt University
M.S., Ph.D., Washington State Univ.

Sanderson, Joy L. (1968)
Nursing
B.S., M.S., University of Calif., San Francisco

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 College
Ph.D., University of Pacific

Schiebold, Marie R. (1965)
English
B.A., M.A., San Francisco State College

Schneider, John T. (1960)
Economics
B.A., University of Southern California
M.B.A., University of Calif., Los Angeles

Schoenstein, Edward G. (1967)
Technical Illustration
A.B., M.A., Chico State College

Schumacher, William J. (1967)
A.B., San Francisco State College
J.D., University of San Francisco

Schwartz, Edwin A. (1957)
Psychology, Counselor
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 College

Shafer, Stephen E. (1968)
Physical Education
B.S., M.A., Utah State University

Shapiro, Robert L. (1963)
Electronics Technology
A.B., University of Michigan
M.A., University of Calif., Los Angeles

Shih, Susan W. (1969)
Counselor, College Readiness Program
A.B., Barnard
M.A., Stanford University

Shinn, Edmond O. (1956)
Guidance, Testing, Counselor
A.B., M.A., University of Calif., Berkeley

Short, George W. (1964)
English, Speech, Counselor
B.A., Occidental College
M.A., San Francisco State College

Sides, Sudie (1969)
History
A.B., M.A., Ph.D., University of North Carolina

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

Sinclair, Helen P. (1963)
Physical Education
B.A., University of Washington

Singh, Balbir (1964)
Mathematics
B.S., St. John's College, Agra University
A.M., Stanford University

Smart, Francis A. (1954)
Business Administration
B.S., University of Calif., Berkeley
J.D., Hastings College of the Law

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

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

Spencer, John M. (1962)
Business
B.A., Williams College
M.B.A., Stanford University

Stack, Dennis M. (1968)
Technical Drafting
B.S., Calif. State Polytechnic College

Steed, Gilbert G. W. (1954)
Art
Otis Art Institute, L.A.
Hans Hoffman, New York
Art Students League of N.Y.
Courtauld Institute, University of London
A.M., Stanford University

Stetson, Winifred P. (1962)
Business, Counselor
A.B., M.A., San Francisco State College

Stewart, Lawrence W. (1968)
English
B.A., University of Utah
M.A., San Francisco State College

Stock, Nancy J. (1968)
Cosmetology

Stoker, Russell M. (1965)
Psychology
B.A., M.A., San Jose State College

Sullivan, Daniel J. (1969)
Business
A.B., Xavier University
M.A., De Paul University
M.B.A., University of Santa Clara

Swanson, Ralph M. (1956)
Chemistry
A.B., Fresno State College
M.A., San Jose State College

Teel, Ruth R. (1961)
English
B.A., Cornell College
M.A., University of Montana

Tippey, James
Music
B.M., M.M., Indiana University

Tollner, Alfred T. (1968)
Physical Education
B.S., M.S., Calif. State Poly. College, San Luis Obispo

Tory, Alan P. (1957)
Social Science
M.A., Oxford University
S.T.M., Union Theological Seminary, New York

Tracy, Allen (1946)
Chemistry, Art
B.A., San Jose State College

Trouse, Ronald R. (1963)
English
B.A., University of California
M.A., San Francisco State College

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

Turner, John F. (1968)
English
B.A., University of Calif., Berkeley
M.A.T., Stanford University

Van Vliet, George A. (1946)
Aeronautics

Villarreal, Gilberto S. (1968)
Financial Aids Officer
B.A., San Jose State College
M.A.T., Stanford University

Wagner, Carl A. (1964)
History, Political Science, Counselor
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
B.S., A.M., Stanford University

Walter, Loyd C. (1968)
Drafting Technology
B.A., M.A., San Jose State College

Walters, Bruce E. (1966)
Aeronautics
B.S., Oklahoma State University

Warne, Herbert R. (1955)
Assistant Dean, Registrar, and Admissions Officer, Counselor
A.B., M.A., University of Pacific

Weaver, Barlow A. (1968)
Librarian (Audio)
B.A., University of Texas
M.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

Wenrich, J. William (1969)
Assistant to the President for Research
A.B., Princeton University
M.A., Ph.D., University of Michigan

Weston, Ruth H. (1945)
Dean of Women, Counselor
B.S., Skidmore College
A.M., Stanford University

Wheeler, Marjorie M. (1968)
Child Development
B.S., University of Minnesota
M.S., Smith College

Whifler, William A. (1966)
Architecture
B.A., Stanford University
A. I. A.

White, Irle E. (1963)
Drama
B.S., M.S., University of Oregon

Wiens, Jacob H. (1939)
Associate Dean of Community Education, Director of College of the Air
A.B., A.M., Ph.D., University of Calif., Berkeley

Williams, John C. (1963)
Biology
A.B., M.A., San Francisco State College

Williams, William H. (1968)
Social Science
B.A., Wayne State University
S.T.B., Boston University

Williamson, H. Stuart (1965)
Biology, Life Science
A.B., Harvard University
M.A., San Francisco State College

Williamson, Richard A. (1963)
English
B.A., M.A., San Francisco State College

Wilson, Alice P. (1966)
English
B.A., Washington University
M.A., University of Illinois

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
B.A., M.A., San Jose State College

Witzel, Elizabeth L. (1966)
Dental Assisting

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

Wu, June C. (1969)
Nursing
A.B., San Francisco State College
M.S., Univ. of Calif., San Francisco

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

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

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

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

Emeriti

Katherine Douglas Schuring
French

E. Gertrude Cook
English

Dr. Elizabeth G. Balderston
English, Dean of Women

T. Beatrice Johnson
English

Dr. Charlie Woodruff Wilson
Zoology

Donna Davis
Art

Samuel A. Francis
Mathematics

George A. Pomeroy
Physics

Dr. Francis M. Stanger
History

Dr. Harry E. Redeker
Chemistry

Leslie Wilson
Geology, Engineering

E. H. Bashor
History

Harry L. Thompson
Sociology, History

Ada R. Beveridge
Coordinator of College-Community Relations

Edla R. Walter
Librarian

Leonora Y. Brem
Health Education

Martha E. Burrill
Coordinator of Admissions and Registration

Emma O. Newland
Clothing

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

General Information

The College

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

Designed by architect John Carl Warnecke and completed at a cost of almost $19.5 million, the College opened its doors in 1963 and currently serves almost 18,000 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 the College of San Mateo emphasizes both esthetics, in dignity and structural clarity, and practicality—a fitting setting for pursuing a quality education.

The District

Starting with just 35 students when it first opened its doors at the Baldwin Campus in downtown San Mateo in 1922, the San Mateo Junior College District has now grown to a complex of three modern campuses serving over 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. Sequoia Union High School District joined in the College District in 1961, and South San Francisco Unified School District was annexed in 1966.

Until the opening of her sister college, Cañada, in 1968, the College of San Mateo constituted the District, and led a nomadic life until moving to its present location in 1963.

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 College campus went into operation at Northern 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 Committee, and the same year submitted a $5.9 million bond issue to the voters that was approved by an overwhelming 3 to 1 margin.

The bond issue victory cleared the way for prompt acquisitions of the present College of San Mateo campus, and also provided funds for purchase of a 111-acre north 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, and a fourth, 184 acres at Cabrillo Highway and Pursima Road south of Half Moon Bay, in 1965.

The College of San Mateo campus was opened in 1963, followed by Cañada College, Redwood City, in 1968 and Skyline College, San Bruno, in 1969. Construction of Cañada 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. No development of the coastal site is anticipated until the late 1970s at the earliest.

When these four colleges all are in full operation, answering the educational needs of 32,000 day students and a projected 50,000 adults at night, the goal of the Trustees' master plan—to provide sufficient junior college facilities for the District for the rest of the 20th Century—will have been realized.

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 potentialities by cultivating his 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 will assist students to function effectively as individuals, as members of their families and as citizens with local, national and world responsibilities.

Lower-Division College Education: Courses which will 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 the scientific, engineering and other professional and technical fields.

Technical-Vocational Education: Training in skills which will qualify students for employment in business and industry.

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.

To assist each student to profit most from his education, the College helps him to explore his aptitudes, to choose his lifework and to plan an educational program which will prepare him 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 the 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 community, which enjoys many cultural advantages. Many College of San Mateo graduates transfer to the University of California, Stanford University and the nearby state colleges. 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. Her graduates have consistently had a pattern of success in four-year educational institutions. Many College of San Mateo students, having terminated their formal education with the Associate Art degree, find employment in business and industry.

Accreditation

College of San Mateo is fully accredited by the Western Association of Schools and Colleges. Such accreditation is of particular significance to students planning to transfer to four-year institutions.

Tuition (Non-Resident Fee)

No tuition is charged to legal residents of San Mateo Junior College District or to students from other parts of California who qualify for admission.

Out-of-state residents pay a non-resident fee of approximately $420 for the academic year 1970-71. This fee is payable at the time of registration at the rate of approximately $210 per semester or approximately $14.00 per unit. Residence status will be determined by the Dean of Admissions and Registrar. Detailed regulations governing non-resident fee and admission requirements will be distributed to students who apply for admission.

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' depen-

ents) and Chapter 31 (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 Veterans Administration office at 49 Fourth Street in San Francisco or 590 Hamilton Street in Redwood City 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

Each student purchases his own textbooks and supplies. A considerable saving is possible through the purchase of used texts from the on-campus Associated Students Store. Excluding living and transportation costs, the total of all expenses, including membership in the Associated Students, should not exceed $75 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 $75.

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

Parking

Parking for students is provided on the campus in clearly designated areas. Certain parking places are reserved for visitors who have guest permits, and for faculty and staff who hold permanent parking permits. Parking and traffic regulations are enforced by the City of San Mateo Police Department. Student parking is available in lots 1, 2, 9, 10, 10A, 15, 16, 17 and part of lot 3.

College Library

Providing a panoramic view of the Bay Area, the three-story College Library is an inviting place for both students and faculty to study and browse. On the main floor are the general book, reserve, reference, periodicals and microfilm collections; on the mezzanine is the open-stack book area; on the lower floor are the non-book instructional materials. There are many tables for individual study and carrels in the open-stack areas, as well as a typing room and group study facilities. In the library collection there are approximately 80,000 volumes, 850 carefully selected periodicals and 2,500 reels of microfilm.

The lower floor houses the listening and viewing installation of 220 stations and 30 program sources. There are 37 student language laboratory booths in addition to faculty recording studios, preview rooms, photography dark rooms and a complete audio-visual aids department, all located on this ground floor. The Library's non-book materials collection contains 8,000 disc recordings, 6,000 tape recordings, 300 films and thousands of slides and filmstrips. The TV and FM radio stations also are located in the building.

The Library is open each school day, Monday through Friday, and on Sunday afternoons. Specific hours for the daily schedule and for holidays are posted at the Library entrance.

Admission Requirements

High School Graduates

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

Persons over 18 years of age may be admitted to classes for which experience and maturity may, 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 junior college district in California please see Residence Requirements for Admission.

Transfers from Four-Year Institutions

Transfer students from four-year institutions are subject to the CSM Academic Standards Policy. (See Academic Standards.)

Transfers from Other Junior Colleges

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

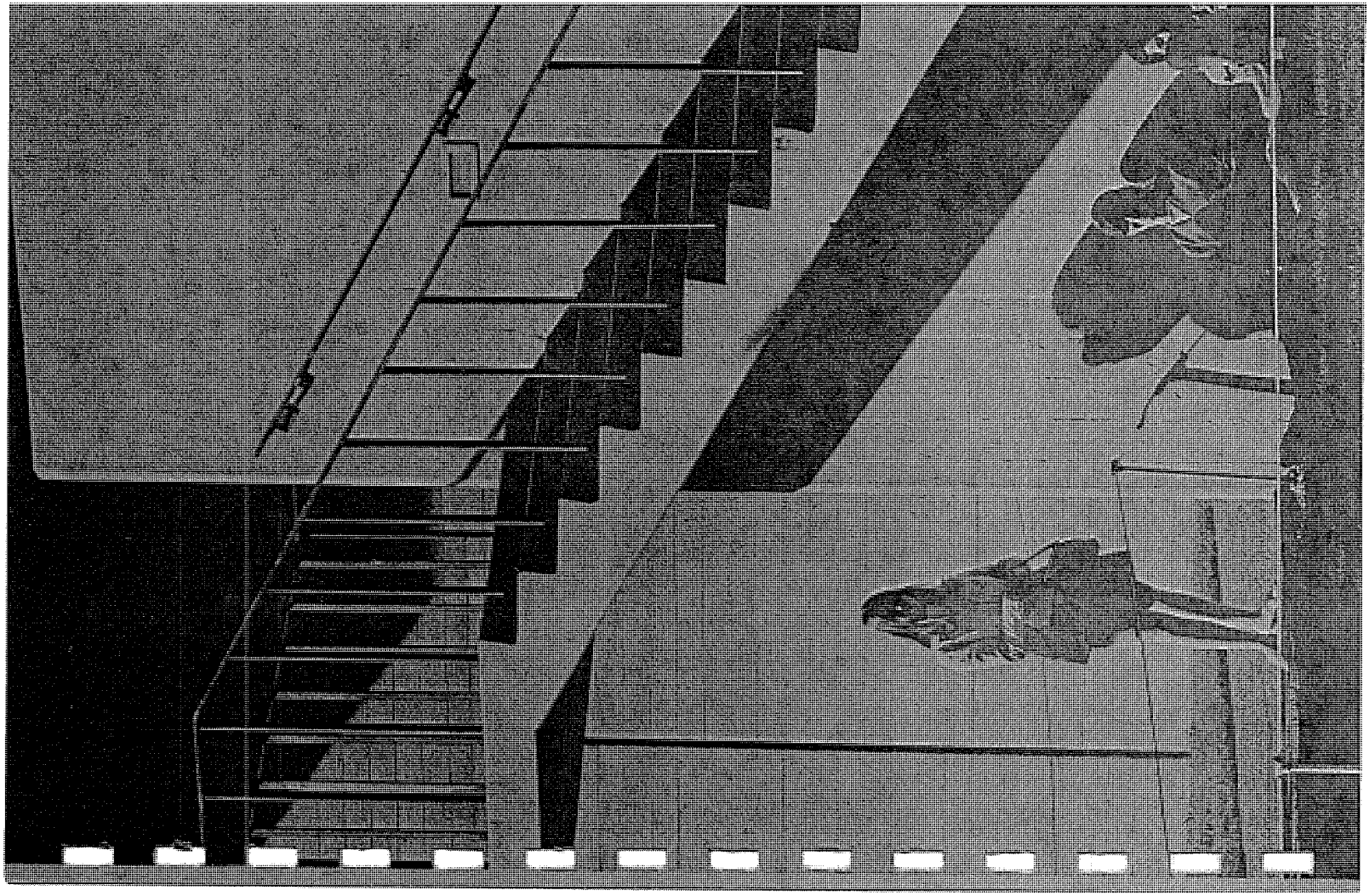
Former Students of College of San Mateo

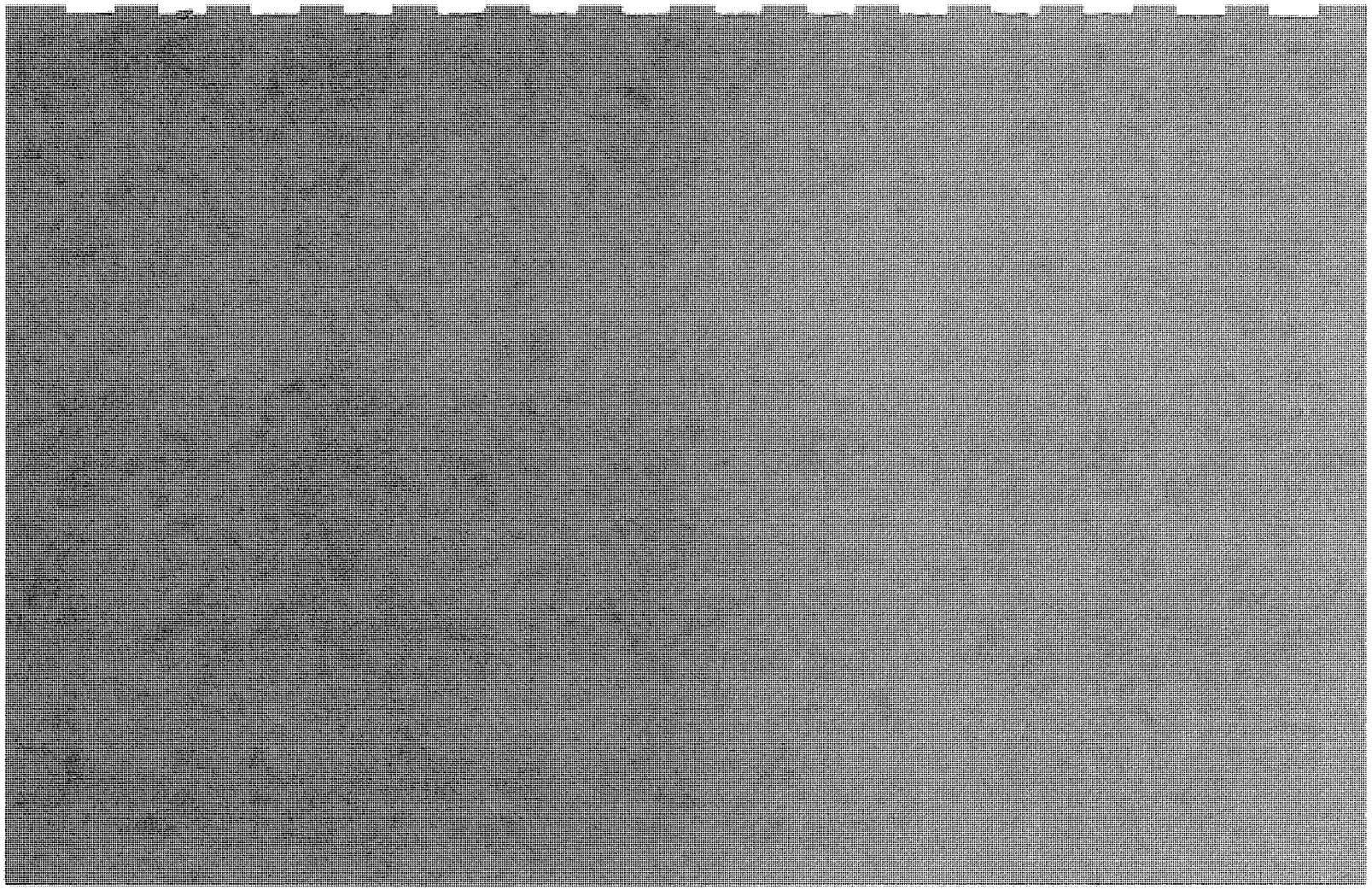
Former students of College of San Mateo are eligible to return; however, if they have a grade point deficiency, they will be readmitted according to provisions of the Academic Standards Policy.

Veterans

Upon presentation of discharge papers showing honorable discharge and active service of one year or more in the United States armed forces, veterans will receive six units of credit for Health Education, First Aid and Physical Education. Veterans may receive additional credit for work satisfactorily completed under the training program of the armed forces upon presentation of proof of such work. Such credit will normally count only towards an A.A. degree and is not transferable. Credit for attendance at military schools will be evaluated only after completion of 12 units of work at College of San Mateo.

Students in the six-month Reserve training programs are not eligible for this credit. This is in accordance with the recommendation of The American Council on Education, issued September, 1957.





Adult Students

All regular day or credit classes are open to adults who wish to attend. Adults are expected to assume the obligations and responsibilities of regular junior college students, but those 21 years of age or over are exempted from Physical Education requirements.

Special Students

A student taking a maximum of eight units and no more than two classes is designated "Special." Special students must file application by the deadline date but are not required to take the general placement tests or submit transcripts. Special students planning to enroll in a course in English, or advanced courses in a foreign language are required to take the appropriate placement test.

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).

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

Transfer Credits

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

Residence Requirements for Admission

The right to attend any one public junior college in California is, in addition to the academic requirements, conditioned by certain residence qualifications.

The legal residence of any unmarried minor student is that of the father or mother, or court-appointed guardian.

An applicant who is a resident of the San Mateo Junior College District needs only to declare his residence and complete admission requirements.

An applicant who is a resident in a part of California not included in a district which maintains junior college classes may attend College of San Mateo. A permit signed by the County Superintendent of Schools of the county of residence will be obtained by the Registrar.

An applicant who is a legal resident of another junior college district must be a graduate of a high school, or be 21 years of age or older, and must submit a written permit from the superintendent of his district of residence granting him permission to enroll in College of San Mateo.

Choice of College

Residents of the District may elect to attend College of San Mateo, Cañada College of 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.

Application for Admission

(See 1970-71 Calendar for application filing dates.)

Prospective students applying for admission to the College of San Mateo are required to:

1. File a written application for admission upon forms supplied by the College.
2. Submit two complete transcripts of records from the high school of graduation, or last attended, and each college attended. (Veterans should file similar copies of their military record and of their special training courses so that they may obtain proper college credit.)
3. Take English placement, aptitude and other specific examinations necessary prior to the time of registration.

Placement Tests Required at Entrance

The following tests (See Calendar for dates) are required of all entering students and are used for the purpose of helping them determine the courses for which they may enroll:

1. Aptitude.
2. English placement (except for those who have satisfactorily completed a course equivalent to English 1a, Reading and Composition).
3. Foreign language placement (French, German, Spanish). Exception: Students entering the first semester of a language are not required to take a foreign language placement test.

Registration

Counseling Appointments

Upon completion of admission requirements, new and returning students will be given a counseling-registration appointment prior to the opening of each semester. (See Calendar at the front of the catalog.) Regular students register only after receiving program approval from a counselor. Late registration after the first day of instruction will not ordinarily be permitted.

Unit Load Limitations

A normal class load will be 15 units plus Physical Education. No student should take more than 17½ units without the special approval of his counselor.

Students working full time or those in the military service should limit their programs to 10 or fewer units. Combinations of work and school should be carefully discussed with the counselor.

Auditing is not permitted in any course offered for credit.

Physical Education Requirement

All regular students are required to take Physical Education, in accordance with the State Education Code, except those who are excused for those reasons indicated below. Men and women must devote two hours per week to Physical Education throughout the period of attendance as undergraduates. The following students may be excused from the P.E. requirement:

1. Junior college graduates.
2. Students who are 21 years of age or older.
3. Students taking eight units or less in Day College.
4. Veterans, exclusive of six-month Reserve trainees.
5. Students excused for medical reasons (requires physician's statement on file in the Health Center each semester).

Every student who is exempt from Physical Education must obtain a clearance signature from his counselor or school nurse on his study card before completing registration. A full-time student who fails to register in and/or regularly attend Physical Education must immediately reduce his program to less than 9 units of Day College classes or have his registration cancelled.

Health Service

Report of a recent health examination, given by the student's personal physician, should be turned in at the time of registration by all entering students. A card providing space for the report and for information to be used in case of emergency is attached to the admission application. Once the health card is on file, it does not need to be renewed unless there is a change in health status or emergency information.

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 a student by his counselor, 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 class after the tenth day of the semester.

A student may drop a course, whether passing or failing, at any time through the 10th calendar day of a semester without incurring a penalty of a semester grade of "F"—failed. After this date, if a student drops a course in which he is failing, he may receive a semester grade of "F." For further information, see section on "Grades and Grade Points," especially the mark of "W."

Selective Service Deferments

The College cannot grant deferments; only the local Selective Service board may do this. It is the responsibility of the individual registrant to keep his Selective Service board informed of his status. The College will assist the student by furnishing to the Selective Service boards, **at the student's request,** information that will help make that status clear.

At the beginning of each semester a report will be made indicating that the student has begun the semester and is satisfactorily pursuing a full-time course of instruction, number of units, the college year of the student, the beginning and ending dates of the semester, and the expected date of graduation of the student. This report is made on Form 109, and a copy of the verificaton to the local boards is available in the Registrar's office after the seventh week of classes.

For institutional purposes a full-time student is defined as one who is carrying 12 or more units a semester. Students are cautioned that the Selective Service System may not accept this definition and may require the student to carry enough units to enable him to earn a bachelor's degree in four years. In most cases this would mean a load of 15½ units.

It is the student's responsibility to notify his local Selective Service board if he changes his study load, course of study, withdraws, graduates, is disqualified, fails to return or for any other reason changes his educational status in such a way that it might affect his draft status.

Evening College

General Information

The Evening College program is the product of an educational philosophy which asserts that College of San Mateo shall serve not only the young people of the community but that it should provide educational opportunities for its adult members as well. Through the Evening College, College of San Mateo provides education and services needed by adults in fulfilling their responsibilities as citizens and members of the community. It provides opportunities to resume interrupted education and to investigate new fields of interest. Classes are offered in approximately 20 instructional areas, including branches of the arts and sciences offered in the general College, together with other courses specifically designed to meet the needs of various groups in the community. More than 300 classes are offered and more than 8,000 persons enroll each semester.

Classes in the Evening College program are open to persons who are over 18 years of age or who are high school graduates. Students currently attending a high school full time are not admissable to Evening College classes. Students attending high school part time must have the CSM Registrar's permission to attend Evening College classes.

Each year many persons complete requirements for the Associate in Arts degree or for certificate programs through attending Evening College 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. Many of these classes parallel courses offered by the Day College; others are designed to provide specific programs of instruction for preparation and advancement in various fields. Credit classes will be closed to registration after two weeks of class session.

All units earned in credit classes are applicable toward the Associate in Arts degree. In many classes, these units also satisfy lower-division requirements for transfer to a four-year college or university.

Requirements for the Associate in Arts degree are listed elsewhere in this catalog. Degree requirements, as well as certificate programs and offerings for the Evening College, are also listed.

Many persons complete requirements for lower-division transfer programs in Business Administration, Education and Liberal Arts, and other areas while obtaining the Associate in Arts degree. A complete offering in any one of these transfer programs may not be available each semester.

The Evening College also offers certificate programs in Management, Ornamental Horticulture, Real Estate, Vocational Gardening, Fire Science Training, Police Science and Nursery School Aide. Specific requirements for these programs are obtainable from the Evening College office. These programs provide specific training within a vocational area. The programs are planned mutually by the College and Advisory Committees to insure practical courses relevant to

problems encountered in the working situation. These certificates are issued upon the completion of required and elective courses, and the units earned in them may be applied toward the Associate in Arts degree for those persons who wish to continue their education.

Separate brochures are available (with the exception of Law Enforcement Training) for outlines of programs, course descriptions, explanations of programs and certifcate 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 Registrar's office.

Evening College Attendance Regulations

Students are expected to attend each meeting of the class in which they are registered. In the event that an absence is unavoidable, it is the student's responsibility to check with the instructor for assignments and class work missed. Failure to do so may endanger his passing the course. The instructor has the responsibility of dropping or failing a student for excessive absences.

Evening College Withdrawal

A student who finds it necessary to withdraw from a class at any time after registration must obtain an "Application for a Permanent Leave of Absence" from the Evening College office. A student may drop a course, whether passing or failing, at any time prior to the end of the second week of the semester without incurring a penalty of a semester grade of "F"—failed. After this date, if a student drops a course in which he is failing, he will receive a semester grade of "F."

Evening College Final Grade Reports

Final grade reports will be mailed to all Evening College students enrolled in credit classes. Please do not call the office for this information at the close of the semester. Mid-term grade reports will be mailed to students receiving grades of "D," "F" or "Incomplete" at the mid-term period.

Evening College Disqualification or Dismissal

All Evening College students must maintain a cumulative grade point total that is double the total units undertaken ("C" grade average). Failure to do so is considered a deficiency. A student will be disqualified if at any time his deficiency amounts to 12 or more grade points. A disqualified student must ordinarily remain out of both day and evening classes for one semester. A previously disqualified student who increases his total deficiency will be dismissed and ordinarily will not be permitted to return to the College.

A disqualified student may present a written appeal to the Standards Committee requesting reinstatement if his disqualification was the result of unusual or emergency circumstances. A dismissed student may petition for readmission only after the lapse of at least two semesters and on presentation of evidence of academic work or other constructive achievement during this period. Students who have been disqualified or dismissed by the Day College may not enroll in Evening College classes without written permission from the Standards Committee. Disqualified or dismissed students may attend Skyline or Cañada Evening College only without appeal.

Veterans in Evening College

Veterans who wish to enter under provisions of veterans' laws must make the necessary arrangements with the Registrar's office. All veterans will receive six units of credit, including Hygiene and Civilian Defense, upon presentation of discharge papers, showing honorable discharge and active service of one year or more. Credit for attendance at military schools will be evaluated only after completion of 12 units of work at College of San Mateo.

Students in the six-month Reserve Training Programs are not eligible for this credit. This is in accordance with the recommendation of The American Council on Education, issued September, 1957.

Evening College Fees

A registration fee of $7.00 per course is required of all adults; this fee is not refundable. Students under 21 are admitted free. Certain courses have additional fees covering special supplies, services or equipment which are payable by both adult and minor students.

Payment of the $7.00 fee must be made by check or money order at the time of registration. Make checks and money orders payable to the SAN MATEO JUNIOR COLLEGE DISTRICT. Where checks are returned for insufficient funds by the bank, a $1.00 service charge will be added.

Out-of-District Students

With the single exception of residents of San Francisco, students whose legal addresses are in another junior college district are required to present a release from that district before being allowed to register in any Evening College class. This release must be presented at the time of registration as 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 the Evening College, but will be billed by the College Admissions office at the rate of $14 per unit for credit courses and per scheduled hour for non-credit courses.

Foreign Students

Students who are legal residents of another country and are in the United States on student visas or on visitor visas may not register in Evening College classes without the approval of the Registrar.

Evening College Testing

An English placement test is required of all students except those who are transferring to College of San Mateo with credit in college English (a course equivalent to English 1a, Reading and Composition). Students who have completed English 50b may repeat the test to establish their eligibility for college transfer courses. The School and College Aptitude Test (SCAT) is administered once each semester on an optional basis for students planning counseling appointments, eventual transfer to the Day College or a major in Business.

Evening College Residence Requirements

A prospective Evening College student who is a resident of the San Mateo Junior College District needs only to declare his residence and fulfill the other registration requirements of the Evening College. (The residence of an unmarried minor is that of his father, mother or court-appointed guardian.)

A student who is a resident of a part of California not included in a district which maintains junior college classes may attend the College of San Mateo Evening College. But a student who is a legal resident of another junior college district must submit a written permit from the Superintendent of his district granting him permission to enroll in the Evening College. Exception: Residents of the San Francisco Unified School District need not obtain permits to attend Evening College classes.

A student whose legal residence is in a state other than California may be admitted, but will be charged a tuition fee of $14 per unit (or equivalent in the case of non-credit courses). Apprentices must show apprenticeship contract to be exempt from fee in related courses.

Non-citizens who are living in the District on resident visas may attend the Evening College. Foreign students who hold 1-20A visas and have been admitted to the Day College may take Evening College courses only with the approval of the Foreign Student Advisor. No other non-citizens are eligible to take Evening College classes.

Evening College Matriculation

Matriculation in the Evening College is accomplished by the following: (a) filling out an Evening College application form at the time of registration, and (b) taking placement and qualifying tests where required.

At a later date and prior to the completion of 30 college units, the student should file with the registrar transcripts covering both his high school and college work and his military service, if applicable; have an appointment with an Evening College counselor, and plan the route by which he intends to reach his educational objective.

Evening College Registration

Registration for classes and dates of registration are described in detail in the class schedules for spring semester, summer session and fall semester. No registration takes place in the classroom except for off-campus classes. Registration in credit classes is closed before the second class meeting. It is recommended that beginning students with full-time occupations do not enroll for more than two evenings per week. No auditors are permitted.

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. 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 347-3031 and asking for the Adult Education Counselor.

Transcript Requests

An official transcript which summarizes a student's complete record at College of San Mateo may be requested from the Office of Admissions and will be mailed directly to another college, an employer or other institution. Official transcripts will not be issued to students. A student is allowed two free transcripts; thereafter there is a $1 charge. Requests must be made in writing.

Evening College Schedule of Classes

A separate schedule of classes offered, 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 for the Evening College 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 College Trade-Related Classes

The Evening College offers classes for the upgrading of journeymen in the trades, as well as related training classes for apprentices.

Evening College Counseling

The Evening College makes every effort to assist its students in the wise choice of individual courses, major fields and even career goals. For information concerning work in a specific subject, students may consult the instructor of the class in which they may be interested. The services of professional counselors are available every evening, from 6:30 to 9:30, Monday through Thursday, throughout the academic year. Anyone who wishes individual counseling should bring transcripts of previous work to his interview. Contact the Registrar's office for appointment.

Group counseling sessions, giving general information about college degrees and the organization of college programs, are scheduled each semester prior to registration. The schedule of classes lists times and location of these sessions.

"Vocational Guidance and Counseling," a three-week course comprised of batteries of tests and their evaluation, is offered at least twice each semester. For further information call Community Services.

Evening College Eligibility

Any adult interested in a given class may enroll in a class without participating in a more formal program. Some classes have prerequisites which are described elsewhere in the catalog.

Evening College Faculty

The Evening College faculty includes teachers from the regular College staff, teachers from nearby colleges and schools, and persons from business and industry and other areas of specialization.

Summer Session

A balanced offering of day and evening summer session classes enables students to accelerate their programs or to satisfy course or curriculum requirements. The Summer Session also affords opportunity for superior high school students after completing their junior year to take a number of selected college courses. Further information may be obtained by calling the College of San Mateo, Summer Session office, or contacting the high school counselor.

Grades and Scholarship

Units of Work and Credit

A "unit" represents one hour weekly, during one semester, in lecture or recitation with the necessary preparation time, or three hours in laboratory or other exercises not requiring home work for preparation.

A normal schedule of 15 college units presupposes that the average student will devote approximately 45 hours per week to class attendance and preparation.

Grades and Grade Points

Once a subject has been made a part of a student's program of attendance, his record for the subject will be reported to the Registrar 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**
***Passed; assigned for**	**0 grade points 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 "passed," "credit" or "no-credit" are given. The units for passed or credit count as units completed.

A grade of "incomplete," meaning deficient in quantity though adequate in quality, 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 Registrar, however, the extension of time may not exceed one calendar year from the date of issuance of the "Inc." The grade from a repeated course will not erase the "Inc."

A grade of "W," meaning withdrawn from class, indicates that the subject so marked has been cancelled from the student's study list and is, therefore, not to be awarded a final grade. No credit can be counted in subjects for which a "W" is recorded, nor is there any penalty involved.

Ordinarily, units for a course which was completed and then repeated will not be counted as units earned toward an A.A. Degree or for transfer to another college. However, courses in which a grade D or F have been earned may be repeated, and units repeated will be counted as units attempted in computing grade-point averages. The g.p.a. (grade-point average) is determined by dividing the total number of grade points earned by the total number of units attempted. 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

On the college level, a student is held responsible for his own academic progress. Grade reports are sent directly 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.

Scholarship Honors

College of San Mateo is affiliated with the State Junior College Honorary Scholarship Society, Alpha Gamma Sigma. The local chapter is the Eta Chapter.

Temporary membership in the local society is awarded for each semester following that in which the student receives a minimum of 42 grade points (not counting Physical Education) in not less than 12 units, has no grade below a C (counting Physical Education) and has a 3.0 grade-point average for all work completed in the semester. Temporary membership for any semester is limited to 10 per cent of the number of students enrolled in the College in the preceding semester.

Life membership in the State Society is awarded upon graduation if the student has been a member of the local chapter during any three of four semesters, has a minimum total of 198 grade points, a grade-point average of 3.3 and no grade below a C (course restrictions as above). A grade-point average of 3.5 for all work undertaken in the College and a minimum total of 210 grade points may be substituted for the above requirements. The student receiving the certificate of life membership must be of good character.

Honors at Graduation

Honors are awarded to students at graduation who qualify as members of Alpha Gamma Sigma for three of four or four of five semesters while in attendance at College of San Mateo.

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 schools and other colleges will not be forwarded.

Two transcripts will be sent without charge. Subsequent copies will be sent for $1 per copy.

Personal Recommendations

Personal recommendations should be a part of each student's permanent record file. Students should request these recommendations from their instructors; recommendation forms are available from the Office of Admissions and Registration.

Academic Standards

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 12½ units in one semester and 15½ units in a second semester, his cumulative units are 28, requiring a grade-point total of 56.)

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

Disqualification

A student will be disqualified if, at any time, his deficiency amounts to 12 or more grade points. A disqualified student must ordinarily remain out of College of San Mateo day and evening classes for one semester.

A disqualified student may present a written appeal to the Standards Committee requesting immediate reinstatement if his disqualification has resulted from unusual, emergency circumstances.

Dismissal

A previously disqualified student who incurs a deficiency in any subsequent semester will be dismissed and ordinarily will not be permitted to return to College of San Mateo for day or evening classes. However, if a student has not increased his total deficiency after disqualification, he may petition the Standards Committee for permission to continue in College.

Immediate readmission of a dismissed student is not considered. Only after the lapse of at least two semesters may a dismissed student petition for readmission; then consideration is given only on the basis of evidence of academic work or other constructive achievement during the student's absence from College.

Transfer Students

A transfer student who enters with a deficiency of 12 or more grade points will be dismissed if he incurs a grade-point deficiency in any subsequent semester. However, a transfer student who has not increased his total deficiency after admission to College of San Mateo may petition the Standards Committee for permission to continue in College.

Student Obligations

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 patrons are listed from the membership of the faculty are not 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 his actions on campus are disruptive of orderly and peaceful conduct of the College or in flagrant violation of College rules and regulations. In case of disciplinary action, the student will have access to established appeals procedures.

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.

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.

Attendance Regulations

Regular attendance in class and laboratory sessions is an obligation assumed by every student at the time of his 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 his success in jeopardy, the instructor may drop the student from the class.

The following regulations regarding attendance have been approved by the Board of Trustees and will be enforced:

A student may be dropped from class whenever his total hours of absence from class equal twice the number of hours the class meets in one week. Ab-

sence means non-attendance, and includes non-attendance for illness, participation in school-sponsored activities or personal emergency.

Any student dropped from any class because of this regulation may appeal in writing to the Attendance Committee within five school calendar days of such drop if he feels there are extenuating circumstances beyond his control which justify his remaining in class. 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. In all cases the decision of the instructor is final.

Emergency Leave of Absence

Absences for medical reasons 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 are required to 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 are required to request an emergency leave from the Dean of Women or Dean of Student Affairs.

If medical or personal emergency requires absence of as much as two weeks, it will be necessary for the student to consult with his counselor before returning to classes.

Withdrawal from College

A student finding it necessary to withdraw at any time after registration must obtain a petition for withdrawal from his counselor. Special students (taking one course only) should report to the Dean of Student Affairs or Dean of Women for a withdrawal petition. The completed form must be returned within five college days to the Dean of Student Affairs or Dean of Women. Failure to comply with the procedure may result in penalty grades of "F."

At any time through the 10th College calendar day, a student may withdraw, whether passing or failing in courses, without incurring penalty grades of "F." A student who withdraws after the deadline may receive the penalty "F" for any course in which he is failing.

After the 10th College calendar day, a student who drops classes with his counselor's approval may be given a grade of "W" if passing the course and a grade of "F" if failing the course.

Absence Without Leave

Any student who leaves College at any time during a semester must complete a formal withdrawal within a period of one week or be subject to academic penalty.

Student Services

Student Services and Administrative Affairs

Dean of Student Services
Philip D. Morse

Dean of Admissions and Registrar
Herbert R. Warne

Dean of Women
Ruth Weston

Health Services
Yolande Hilpisch

Foreign Student Adviser
Howard E. Durham

Dean of Student Affairs
Allan R. Brown

Financial Aids
Gilberto Villarreal

Psychological Services
Charles Devonshire
Noel W. Keys

Testing Services and Occupational Library
Robert S. Howe
Edmond O. Shinn

Counselors in Major Fields of Study

Aeronautics
Mr. Nystrom
Mr. Ken Blust

Architecture
Mr. Multhaup
Mr. R. W. Smith

Art
Mr. Daniels, Mr. Prochaska

Business Administration
Mr. Justice, Mr. Spencer

Business
General Accounting, General Business, Merchandising, Real Estate, Secretarial Training, Stenographic Training, Transportation
Miss Stetson, Miss Mulhall
Mrs. Davidson, Mr. Spencer
Mr. Justice

Cosmetology
Mrs. Bush

Dental Assisting
Mrs. Langston

Drafting Technology
Mr. McClure

Education
Mrs. Berryhill, Mr. Murphy,
Mr. M. Alexander

Electronics Technology
Mr. Angerbauer

Engineering
Mr. Clemens, Mr. Crawford,
Mr. Multhaup, Mr. R. W. Smith

General Education
General Education, Liberal Arts, No Major Program, Special Program, Undecided Major Program
Miss Cornahrens, Mr. Fishback,
Mrs. Hazelton, Mr. Howe,
Mrs. Fountain, Mr. Prochaska,
Mr. Shinn, Mr. Short,
Mrs. Weston, Mrs. Lehman
Mr. M. Alexander

Home Economics
Mr. Monroe, Mrs. Weston

Immigrant Students
Mr. Frassetti

College Readiness Program
Mr. Mantabe, Mr. Orozco

Language Arts
Dramatics, Radio, Telecommunications, English, Foreign Languages, Journalism, Speech
Mrs. Berryhill, Mrs. Hazelton, Mr. Murphy, Mr. Short, Mrs. Lehman Mr. Hecomovich

Life Sciences
Agriculture, Bacteriology, Biology, Dental Hygiene, Dentistry, Forestry, Game Management, Laboratory Technology, Life Sciences, Medical Technology, Medicine, Nursing, Optometry, Pharmacy, Physical Therapy, Physiology, Public Health, Veterinary Medicine, Wild Life Conservation, Zoology
Mr. Monroe, Mr. J. Williams, Mr. Clemens, Mr. Williamson

Manufacturing Technology
Mr. McClure

Mathematics
Mr. Crawford

Music
Mr. Marshall

Nursing
Degree Requirements
Mrs. Grubbs

Vocational Nursing
Mrs. Grubbs
A.A. Degree Nursing
Mrs. Grubbs

Physical Education
Mr. Hudson, Mrs. Fountain

Physical Sciences
Astronomy, Biochemistry, Chemistry, Geology, Geophysics, Meteorology, Paleontology, Photography, Physical Sciences, Physics
Mr. Glen

Real Estate
Mrs. Hopkins

Social Sciences
Anthropology, Criminology, Economics, Geography (Cultural), History, Industrial and Labor Relations, International Relations, Law, Occupational Therapy, Philosophy, Police Science, Political Science, Psychiatric Technology, Psychology, Social Sciences, Social Welfare, Sociology
Mr. Phipps, Mr. Richmond, Mr. M. Alexander, Mr. Wagner

Technical Illustration, Machine Tools Technology, Welding Technology
Mr. McClure

Program Planning, Counseling and Psychological Services

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

The Student Personnel Office will make appointments for interviews with

counselors 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.

When a student receives an academic deficiency notice indicating unsatisfactory work, he is to see his counselor concerning reasons for his lack of progress.

All faculty members are an important part of this College's advising program. Students should feel free to approach counselors and other faculty members for information.

Psychological Services are available to all students at the College. Appointments may be made through a counselor, the Office of Student Services or directly by the student with the school psychologist.

Testing

The Office of Student Services maintains a service in psychological 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.

The Guidance 10 course carries transfer credit to state colleges and some universities and is optional for all students. It is recommended for all entering students. It offers the following personnel services:

1. **Further testing services:** A thorough explanation and interpretation of psychological tests taken at entrance are given each student. Additional psychological tests are given to the student to help him appraise his aptitudes, interests, personal adjustment and special abilities, and to assist him to verify or to make effective educational and vocational plans.
2. **Introduction to College:** The course is also designed to acquaint students with College facilities, activities, services and requirements; to improve study habits and skills, to develop leadership techniques, and to explore the world of work in areas which meet their individual interests and abilities.

Health Service

Counseling on health problems is available at the Student Health Center.

Report of a recent health examination, given by the student's personal physician, should be turned in to the Health Center at time of registration by all entering students. This examination will determine not only the student's fitness for Physical Education but also the type of activity best suited for his specific needs. A card providing space for this report and also for information to be used is attached to the admission application. The card must be completed.

First aid is given in cases of injury. The student is then referred to his physician. An ill or injured person who is unable to communicate will be sent to the emergency room at San Mateo County General Hospital if his health card is not complete and the family cannot be reached.

Student Health Insurance Plan

The College offers accident and health insurance coverage to its students on a voluntary basis. Most students are over 18 years of age and are no longer

covered by their parents' group insurance policies. Additional information and literature can be obtained in the Student Health Center.

Placement Services

The College maintains a placement office to assist students currently enrolled and 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.

Housing

Neither dormitories nor other types of College-sponsored housing are available at College of San Mateo. The Dean of Women and Dean of Student Affairs will assist students in finding accommodations in private homes. A few opportunities exist for students to earn room and board in return for 15 hours of work per week; information regarding such openings is available from the Placement Office.

Financial Aids

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's 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. The Associated Students have made a limited loan fund available to students who have an emergency need.

For detailed information and application for financial aids, students should contact the Financial Aids Officer, Administration Building, Room 221. Mrs. Ruth Weston, Dean of Women, is chairman of the College Scholarship Committee and the Dean of Student Affairs will assist students eligible for loans from Associated Student funds.

Activities

The student activities program is an important part of the educational experience at the College of San Mateo. All registered students are encouraged to participate in the various offerings of the activity program.

With the assistance of faculty advisers, Student Council directs and supervises many activities in which the College is represented. Because the direct financial support for student activities comes from purchase of Activity Cards, each student is encouraged to purchase a card.

Organizations

In order to secure the most from his 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. The student is advised to contact the sponsors,

whose names appear below, for further details about the club or clubs in which he may be interested.

Alpha Eta Rho
(Aviation)
Mr. Van Vliet

Alpha Gamma Sigma
(Honor Society)
Mr. Acena, Mrs. Murashige

Alpha Phi Omega
Mr. Gum

Arab Student Organization

Associate Degree Nurses
Mrs. Grubbs

Ass'n of Technical Draftsmen
Mr. Chowenhill

Business Club

CAPHER
Miss Ingraham

Christian Science Organization
Miss Stetson

Ceramic Club
Mr. Rascon

Circle K
Mr. Morse

COBRA (Brown Students Organization)
Mr. Villarreal

Collegiate Christian Fellowship
Mr. Multhaup
Mr. Gum

Cosmetology Club
Mrs. Casstevens, Mrs. Petelin

Dance Club
Mrs. Banks

Deseret Club
Mr. Angerbauer

Education Club (SCTA)
Mr. M. Alexander

Epsilon Delta
(Dental Assisting)
Mrs. Rue, Mrs. Langston

Eta Epsilon
(Home Economics)
Mrs. Ireson

Hillel
Mr. Gattmann

International Relations Club
Mr. Durham, Mr. Frassetti

New Black Generation
Mr. Ferguson

Newman Club
Mr. DeGregorio

Opera Club
Mr. S. Cooke

Oriental Students Association
Miss Shih, Mr. Wagner

Radio and TV Guild
Mr. D. Montgomery, Mr. Odum

Republican Club

Rifle and Pistol
Mr. H. S. Williamson

San Mateo Amateur Radio and Electronics
Mr. Hecomovich

Sierra Club
Mr. Hardt

Sinawik
Mr. Darro

Ski Club
Mr. Horn

Skin and Scuba Club

Symphonic Band
Mr. Bardes

Veterans Club
Mr. Davis

Vocational Nurses Club
Mrs. Grubbs

Young Democrats
Mr. Hynding

Young Socialist Alliance
Mr. Stewart

Student Associations

Inter-Club Council
Mr. Darro

Associated Men Students
Mr. Darro

Associated Women Students
Mrs. Weston

Recreation Association
Miss Silva, Mr. Balsley

Judicial Council
Mr. M. Clemens

Student Council
Mrs. Weston, Mr. A. Brown

The above-listed are the only organizations sanctioned by College of San Mateo.

Publications

The following publications are issued by and for the Associated Students:

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.

Vintage—A student feature and literary magazine published each spring, sponsored jointly by the Associated Students and the English Department. Each year the "Vintage" provides a show case for the talents of the creative writing and art classes, as well as informative and timely articles by other interested students.

Daily Bulletin—A mimeographed publication prepared and distributed by the Activities Office each school day, announcing activities, news events and items of interest to the faculty and students of the College. The deadline for submission of items for publication is 10 a.m. on the preceding day.

Athletics

The College sponsors the major sports within the Golden Gate Conference for the benefit of those students interested in team competition.

College of San Mateo adheres to the California State Athletic Code and the Golden Gate Conference eligibility rules and regulations. 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 his college in any athletic contest unless he is enrolled in and is passing at all times in a minimum of 10 units of work in addition to Physical Education (if required) in a regular or special course as defined in the curricula of his institution. Periodic scholastic checks shall be made to comply with this rule.
2. In meeting the units-of-work requirement, subjects which have been failed may be repeated, but those that have been completed with a passing mark may not ordinarily be repeated and included in meeting this requirement.
3. In order to be eligible, a student who has previously attended college must have completed, in his last term or semester of attendance, at least 10 units of work in addition to Physical Education (if required).

Women's Sports

The Recreation Association, chiefly through the P. E. classes, offers a wide variety of coeducational sports. Included in the program are sports days arranged with neighboring colleges and universities. The competition and the friendships brought about on these occasions are of lasting value. Special awards are given for competition between classes, and blocks are awarded once a year.

Graduation Requirements

(Associate in Arts Degree)

Graduation from College of San Mateo with the Associate in Arts degree is based upon the completion of 60 units of lower-division college-level work, including the requirements listed below, the last 12 units of which must be completed at this institution. A student is required to have an overall grade-point average of 2.0 (or a 2.0 grade-point average on his last 60 units of work). At the beginning of the final semester, it is the responsibility of each candidate to file an application for graduation in accordance with directions to be announced by the Registrar.

Here are the requirements in brief, followed by explanatory paragraphs:

SUBJECTS	UNITS
American History and Institutions; California Government	**5-8**
English	**6-8**
Health Education and First Aid	**2-3**
Physical Education	**2**
Major (in a specified field)	**20**
General Education	**6**
Electives	**12-20**
TOTAL UNITS	**60**

History and Government

This requirement may be satisfied in two different ways: **(a)** by completing either Political Science 25—National, State and Local Government (5 units)—or, for foreign students only, Political Science 27—American Society (4 units)—or **(b)** by completing one of the listings in each of the following groups:

Group 1—American History and Institutions

a. History 17a-17b—American History (6 units), or
b. Political Science 21—American Institutions (3 units), or
c. Political Science 22—American National Government (3 units), or
d. History 4a-4c—Western Civilization (6 units), or
e. History 99—Historical Geography, and History 17a or 17b (6 units), or
f. History 17a or 17b plus any 3-unit history course labeled "United States:"

11	U.S.: Economic History	(3)
24	U.S.: American Foreign Policy	(3)
25	U.S.: The American West	(3)
26	U.S.: 20th Century American History	(3)
33	U.S.: The Afro-American in U.S. History	(3)
34a	U.S.: The Afro-American in U.S. History to 1865	(3)
34b	U.S.: The Afro-American in U.S. History after 1865	(3)
35	U.S.: Civil War and Reconstruction	(3)

Group 2—California State and Local Government

a. History 23b—California History (2 units), or
b. Political Science 23—State and Local Government (2 units), or
c. Political Science 12—State and Local Government (3 units), or
d. History 22—California History (3 units)

English

At least two semester courses in English or Speech (a minimum total of 6 units). One of these shall be the course to which the student is assigned by the Placement Test: English 50a, 57a, 57b, A, 1a. Other courses shall be selected from the following:

English: A, 1a, 1b, 2, 12, 13, 21, 23, 24, 25, 26, 27, 30, 31ab, 42ab, 43, 46ab, 50b, 57b, 61, 62ab, 63, 66, 68.

Speech: 1a, 2a, 2b, 27, 33, 57a, 57b, 62.

Health Education and First Aid

All students are required to take Health Education 1. In addition, each student must show that he has completed an acceptable course in First Aid. Most students who have graduated from a public high school in California since 1952 have completed the First Aid requirement.

Veterans may receive credit for these courses by presenting to the Registrar their discharge papers showing honorable discharge and active service of one year or more in the United States armed forces.

Physical Education

A minimum of ½ unit each semester for two hours of Physical Education taken each week throughout the period of junior college attendance prior to graduation is required under the State Law of California, unless the student is legally exempted therefrom as indicated under "Registration, P.E. Requirement" in this catalog. The student must receive a passing grade for each required semester of P.E.

Major

A student's major consists of at least 20 semester hours in a specified field of study. A field of study is understood to be a specific subject with such supporting subjects as may properly be used to round out the training in preparation for a major or for some particular occupation. For students planning to transfer to four-year institutions, fulfillment of lower-division requirements for the institution of their choice will be considered a major.

General Education

A transfer student will complete the lower-division requirements of the institution to which he plans to transfer. A terminal student will complete six units outside his major area, selected from the list of General Education courses which follow.

General Education is the part of a program of studies which introduces the student to areas of study that develop breadth of outlook and contributes to his balanced development. This training is complementary to, but different in emphasis from, the specialized training he receives for a job, a profession or high scholastic attainment in a particular field of study.

The purpose of the program in General Education is to assist the student in moving toward the following goals:

1. Developing a sound moral and spiritual code for his personal and civic life as a responsible citizen in a democracy.
2. Developing critical and constructive thinking for problem solving and value discrimination.
3. Maintaining good mental and physical health for himself, his family and his community; developing balanced personal and social adjustment, satisfactory home and family life, and vocational adjustment.
4. Using basic mechanical, mathematical and communication skills to solve everyday problems, understand ideas of others and express his own ideas effectively.
5. Understanding his cultural heritage and his interaction with his biological and physical environment.
6. Understanding the creative activity of others and participating to some extent in creative activity of his own.

Graduation requirements for the transfer student are as follows:

1. P.E., Health Education and First Aid.
2. Two semesters of English (6 units).
3. American Institutions, and State and Local Government.
4. Additional General Education courses as specified by the institution to which the student plants to transfer.

Graduation requirements for the two-year student are as follows:

1. P.E., Health Education and First Aid.
2. Two semesters of English (6 units).
3. American Institutions, and State and Local Government.
4. A major of at least 20 units.
5. A total of six units outside his area of concentration, including at least one course in science or mathematics and one course in the humanities or personal growth. Students will confer with counselors to determine courses best-suited to meet individual needs.

Career Planning

The following programs, designed to assist the student to select subjects to meet vocational or professional goals and fulfill graduation requirements at College of San Mateo, may be materially changed by the student in conference with a counselor to meet particular objectives.

The student should be aware that course prerequisites, graduation requirements and changes in educational goals may require a longer period than the usual two years. It is necessary that he assume responsibility for his program and make his own decisions with a counselor's assistance. If he elects to transfer to a four-year college or university, he should consult the catalog for the institution of his choice.

Courses are described under "College Courses" in this catalog; the current schedule of classes gives information regarding time and location of courses offered.

State Colleges, Universities

Transfer of Credit

A student expecting to transfer to a state college, private college or university can usually complete the first two years of his work at College of San Mateo. If all requirements have been met, students transferring to higher institutions may graduate in two years of further study. The student may decide to spend more than two years at College of San Mateo or transfer to a four-year institution with less than junior standing. In any event, it is important that he consult with his counselor in order to arrange a program which will meet the requirements for transfer to the institution of his choice.

College catalogs and occupational information are on file in the Occupational Information Library in the Student Services Office and at College of San Mateo Library, and are available to the student upon request. The student may write directly to the registrar or dean of the institution of his choice to obtain catalogs, circulars of information and other data concerning required subjects.

The earlier a student makes a decision regarding a higher institution to which to transfer, the better are his chances for meeting all requirements without delay. If he is unable to make this decision when he enters College of San Mateo, he may elect to follow the requirements shown in the curriculum of the College of Letters and Science of the University of California, Berkeley.

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 the student may qualify for transfer to the college of his choice by maintaining an acceptable grade-point average at College of San Mateo without having met high school deficiencies.

California State Colleges

GENERAL EDUCATION REQUIREMENTS

There are several variations in the lower-division requirements in the state colleges. Students should consult the catalog of the individual state college for specific requirements in the major departments. In some state colleges, for example, competency in a foreign language is required to meet degree requirements in specific major programs (e.g., San Jose and Fresno state colleges). The aim of the General Education program is to encourage all students, regardless of the special roles they will fill in society, to develop the sense of values, attitudes, knowledge and skills needed for effective living. It is recommended that the requirements be completed during the first two years, but certain portions may be postponed until the junior year.

GENERAL EDUCATION PATTERN

College of San Mateo will certify the completion of the California state college General Education educational requirement if a student completes the

program listed below. Such certification is made directly to the state college to which the student transfers, and meets the state college General Education requirement for the A.B. degree. For specific courses within each area, please refer to list below.

TOTAL UNITS REQUIRED IN GENERAL EDUCATION — 40.

Area 1—Natural Sciences (minimum of 6 units)

Must include at least one course from a. and one from b., below.

a. Life Science—Anatomy 1, 2; Anthro. 1; Bact. 1, 2, 10; Biol. 2, 10a, 10b, 15, 25, 40; Botany 1, 4, 10; Conserv. 1; Dendrology 1; Ecology 10; Entomology 1; Forestry 1; Life Sci. 10; Physiology 1; Zoology 1a, 1b.

b. Physical Science—Astron. 1a, 1b, 10; Aviation Weather 10; Chem. 1a, 1b, 10; Geog. 1a; Geol. 1a, 1b, 10; Meteorology 1; Mineralogy 6; Paleontology 1; Phys. Sci. 10; Physics 2a, 2b, 4a, 10.

Area 2—Social Sciences (minimum of 11 units)

Must meet U. S. Government, and State and Local Government requirements, plus 6 additional units.

Anthro. 2, 3; Econ. 1a, 1b, 10, 11, 12; Ethnics 2, 3, 4; Geog. 1b, 4, 5a, 5b; Social Science 33; Sociology 1, 2, 3, 4, 6, 12; History—all courses except Hist. 99; Political Science—all courses numbered under 49; Psychology—all courses numbered under 49 except 7 and 14.

Area 3—Humanities (minimum of 6 units)

At least 3 units in Literature or Philosophy, plus 3 additional units.

Arch. 10; Art 1a, 1b, 1c, 2a, 10, 19; Drama 1a, 1b, 2a, 2b, 10; English 1b, 12, 13, 21, 23, 24, 25, 26, 27, 30, 31a, 31b, 39, 42a, 42b, 43, 46a, 46b; Ethnics 1; Foreign Language 4, 25a, 25b, 30; Music 3, 6, 7; Philosophy—all courses numbered under 49 except 7, 8 and 12; Speech 2a, 2b; Telecommunications 51.

Area 4—Basic Subjects

Aero. 10; Bus. 10, 35, 58; Bus. Ad. 1a, 18a; Data Proc. 60; *English 1a and 1b or English 1a and Speech 1a; Econ. 2; Engineering 4; Elect. 10; Foreign Languages 1, 2, 3, 8; *Health Ed.; Journalism 1, 2; Math. 10, 13, 16, 17, 19 or above as determined by placement, 25; Nat. Sci. 10a, 10b; Philos. 7, 8, 12; *Physical Ed.; Psychology 7; Spanish 1a, 1b, 3n; Speech 4, 27.

*Required.

University of California (Berkeley Campus)

COLLEGE OF LETTERS AND SCIENCE REQUIREMENTS

In order to transfer to the University in the College of Letters and Sciences in junior standing, a student should complete two years of not more than 70 units of credit in approved courses which will be acceptable by the university toward completion of four years of undergraduate work.

The student is urged to consult with his counselor at the junior college in regard to his plans and to refer to the following publications which may be secured directly from the University of California, Berkeley:

1. Bulletin. General Catalog, University of California, Berkeley.
2. Statewide Bulletin. Prerequisites and Recommended Subjects.

Below is a summary of requirements for the A.B. degree with sample lower-division courses offered at CSM which will satisfy these requirements.

NOTE: All requirements listed need not be completed in the lower division (first two years), and College of San Mateo courses shown are for illustration only and not a complete list.

University	**College of San Mateo**
American History and American Institutions	Political Science 21 Political Science 23 History 17a, 17b
Reading and Composition (6 units)	English 1a, 1b
Foreign Language (12 units)	French, German, Spanish 1, 2, 3
Mathematics (Satisfactory performance on an examination to test ability to use arithmetic, elementary algebra and elementary plane geometry or completion of college-level mathematics course.)	Mathematics 29
Natural Science (12 units) (Including courses in both physical science and biological science.)	Chemistry 1a, 1b, 8; Physics 2a, 4a, 10; Biology 10a, 10b; Zoology 1a; Anthropology 1; Geology 1a, 1b, 10; Astronomy 10.
Social Science (12 units)	Anthropology 2; Economics 1a, 1b; Geography 1b; History 4a, 4b; History 17a, 17b; Psychology 1a, 33; Political Science 1, 2; Sociology 1.
Humanities (12 units)	Art 1a, 1b; Art 2a, 2b; English Literature; French 4; Speech 4; German 4; Philosophy 6a, 6b; Speech 2a.
Major requirement (Completed in the upper division)	

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.

The student is urged to consult with his counselor at the College in regard to his plans and to refer to the Stanford University Bulletin which may be secured directly from Stanford University.

Suggested Curricula

Aeronautics

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

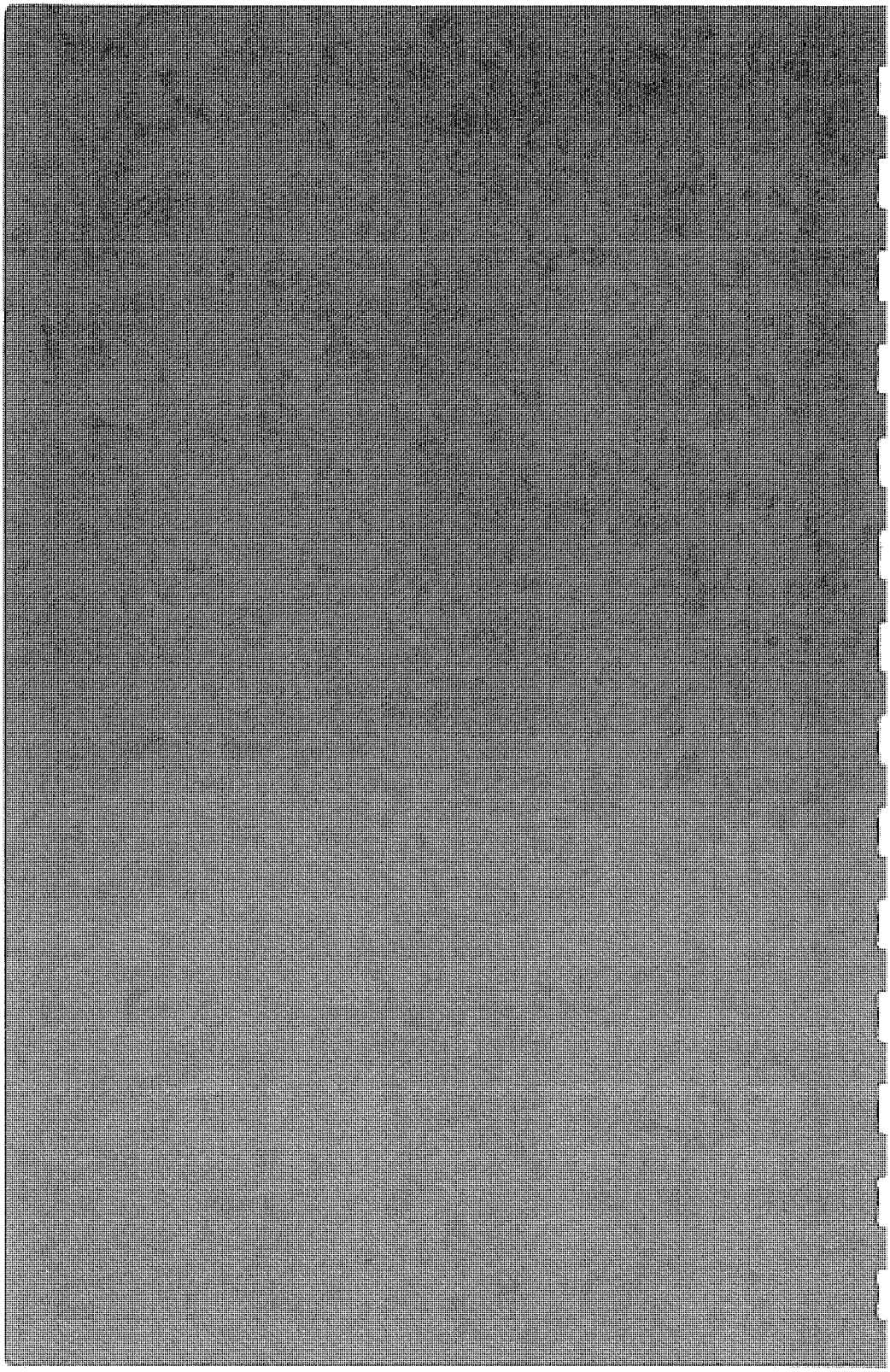
Aeronautics (Airframe Technology)

Associate in Arts Degree with a Major in Airframe Technology

Recommended High School Preparation: Elementary Algebra, Intermediate Algebra, Plane Geometry, Drafting, General Shop, and Physics or Physical Sciences.

Freshman Year	Units F	Units S
Aero. 5—Aircr. Powerpl.	3	
Aero. 6—Aircraft	3	
Physics 10	3	
Aero. 50—General Maint.	3	
Aero. 50L—Gen. Maint. Lab	2	
Aero. 55—Aero Drafting	1	
Aero. 60—Airc. Elect. Sys.		3
Aero. 60L—A/C Elec. Sys. Lab		3
Aero. 80—A/C Fluid & Environmental Control Systems		2
Aero. 80L—A/C Fluid & Environmental Control Systems Lab		2
Aero. 51—Applied Math		3
English—by eligibility		3
Physical Education	½	½
	15½	16½

Sophomore Year	Units F	Units S
Aero. 81—Aircr. Sheetmetal Structures	3	
Aero. 81L—Aircr. Sheetmetal Structures Lab	3	
Aero. 82—Aircraft Welding	2	
Aero. 82L—Aircraft Welding Lab	2	
Polit. Sci. 21—Amer. Inst.	3	
English—by eligibility	3	
Aero. 83—Aircraft Wood Dope Fabric & Lamin.		3
Aero. 83L—A/C Wood, Dope, Fabric & Laminates Lab		3
Aero. 84—Airframe Repair Facilities		2
Aero. 84L—Airframe Repair Facilities Lab		2
Health Education		2
Polit. Sci. 23—State & Local Government		2
Psychology 1A or 4		3
Physical Education	½	½
	16½	17½



Aeronautics (Powerplant Technology)

Associate in Arts Degree with a Major in Powerplant Technology

Recommended High School Preparation: Elementary Algebra, Intermediate Algebra, Plane Geometry, Drafting, General Shop, Physics or Physical Sciences.

Freshman Year	**Units**	
	F	**S**
Aero. 5—Aircraft Powerplants	3	
Aero. 6—Aircraft	3	
Physics 10	3	
Aero. 50—General Maintenance	3	
Aero. 50L—General Maintenance Lab	2	
Aero. 55—Aeronautical Drafting	1	
Aero. 70—A/C Powerpl. Maint.		3
Aero. 70L—A/C Powerpl. Maint. Lab		3
Aero. 71—Turbine Powerplant Maint.		2
Aero. 71L—Turbine Powerpl. Maint. Lab		2
English—by eligibility		3
Aero. 51—Applied Math		3
Physical Education	½	½
	15½	16½

Sophomore Year	**Units**	
	F	**S**
Aero. 60—Airc. Elec. Systems	3	
Aero. 60L—Airc. Elec. Systems Lab	3	
Aero. 72—Powerpl. Induct. Systems	2	
Aero. 72L—Powerpl. Induct. Systems Lab	2	
Polit. Sci. 21—American Institutions	3	
English—-by eligibility	3	
Aero. 73—Aircraft Prop.		2
Aero. 73L—Aircraft Prop. Lab		2
Aero. 74—Powerpl. Repair Facilities		3
Aero. 74L—Powerpl. Repair Facilities Lab		3
Health Education		2
Polit. Sci. 23—State and Local Government		2
Psychology 1A or 4		3
Physical Education	½	½
	16½	17½

CAREER OPPORTUNITIES

Well-qualified airframe technicians and powerplant technicians are in demand by airlines as well as other aircraft operations. The student who completes courses and obtains his Federal Aviation Certificate in either or both fields of airframe or powerplant mechanics has excellert opportunities for steady employment.

Aeronautics (Commercial Pilot)

Terminal Program

Associate in Arts Degree with a Major in Aeronautics

Recommended High School Preparation: Intermediate Algebra, Plane Geometry, Drafting, Trigonometry, General Shop, and Physics or Physical Sciences.

Freshman Year	**Units**	
	F	**S**
Aero. 2a—Basic Ground School	3	
Aero. 6—Aircraft	3	
Aero. 11—Flight Training	2	
Eng. A or 1a—by Eligibility	3	
Math. 51 or Bus. 10	3	
Physics 10—Desc. Phys.	3	
Aero. 2b—Advanced Ground School		3
Aero. 5—Aircraft Powerplant		3
Aero. 12—Flight Training		2
Meteo. 10—Aviation Weather		3
Speech 1a—Fundamentals		3
Polit. Sci. 23—State and Local Governmnet		2
Aero. 3—Flight Simulation		1
Physical Education	½	½
	17½	17½

Sophomore Year	**Units**	
	F	**S**
Aero. 8—Instrument Flight Grd. Sch.	3	
Aero. 3—Flight Simulation	1	
Aero. 7—Flight Operational Data	2	
Aero. 14—Flight Training	2	
Bus. 58—Human Relations	3	
Polit. Sci. 21—Amer. Inst.	3	
Aero. 3—Flight Simulation		1
Aero. 15—Ins. Flight Training		1
Aero. 25—Materials		3
Psychology 1a—General		3
Bus. 66—General Accounting		4
Health Education		2
Physical Education	½	½
	14½	14½

Summer School
Aero. 13—Flight Training 2

Option:
Aero. 16—Instructor Flight Training 1
Aero. 17—Multi-Engine Flight Training 1

For prospective flight engineers Aero. 61 is recommended instead of Aero. 5.

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. The flight portion of the program is handled by a fixed-base operator, and the student is responsible for payment of all flight costs.

See catalog under Aero. 11 for enrollment in actual flight training courses.

Aeronautics (Commercial Pilot)

Transfer Program

Associate in Arts Degree with a Major in Aeronautics

Recommended High School Preparation: Intermediate Algebra, Plane Geometry, Drafting, Trigonometry, General Shop, Physics or Physical Sciences.

Freshman Year	**Units** F	S
Aero. 2a—Basic Comm. Ground School	3	
Aero. 6—Aircraft	3	
Aero. 11—Flight Training	2	
English 1a—Reading and Composition	3	
Math. 21 or Bus. Ad. 1a	3-4	
Aero. 2b—Advanced Ground School		3
Aero. 3—Flight Simulation		1
Aero. 5—Aircraft Powerplant		3
Aero. 12—Flight Training		2
Meteo. 1—Elementary		3
Polit. Sci. 23—State and Local Government		2
Speech 1a—Fundamentals		3
Physical Education	½	½
	14½	17½

Sophomore Year	**Units** F	S
Aero. 8—Instr. Flight	3	
Aero. 3—Flight Simulation	1	
Aero. 7—Flight Operational Data	2	
Aero. 14—Flight Training	2	
Physics 2a—General	4	
Polit. Sci. 21—Amer. Inst.	3	
Aero. 3—Flight Simulation		1
Aero. 15—Instrument Flight		1
Econ. 1a—Principles		3
Psychology 1a—General		3
Physics 2b—General	4	
Health Education		2
Physical Education	½	½
	15½	14½

Summer Session

Aero. 13—Flight Training 2

Designed for the student who plans to become a commercial pilot, flight instructor, airline pilot or fixed-base operator and plans to complete a four-year transfer program. The flight portion of the program is handled by a fixed-base operator, and the student is responsible for payment of all flight costs.

For transfer to San Jose State College Aircraft Operations, Bus. Admin. 1a and 1b should be taken in lieu of Math 21. It is recommended that students who have not had Business in high school or who are below the 37th percentile in math scores enroll in either Business 10 or Business 66 prior to Bus. Ad. 1a.

See catalog under Aero. 11 for enrollment in actual flight training courses.

Agriculture

Transfer Program

Recommended High School Preparation: Chemistry, Physics, Elementary Algebra, Intermediate Algebra, Geometry, Trigonometry, Mechanical Drawing, two years in one foreign language.

The program outlined below is typical of requirements for transfer in junior standing to a four-year college or university.

The student should refer to the catalog of the college of his choice for special requirements.

	Units		Units
English 1a-1b—Reading & Composition	6	Chemistry 8—Elem. Organic	3
Chemistry 1a-1b—General	10	Social Science	9
Physics 2a-2b—General	8	Health Education	2
Botany 1—General	5	Physical Ed. (One course each semester)	2
Zoology 1a—General	5	Electives	8

Electives will be used to complete the particular requirements of the transfer school. For example: U. C. Forestry requires Math. 30, Engin. 1a-1b, Econ. 2 (Statistics); Humboldt State College Wildlife Management requires Zoology 1b, Psychology 1a, etc.

Included in the possible fields of emphasis are the following:

Agricultural Economics
Agricultural Education
Agricultural Production
Irrigation Science
Agronomy (Plant Science)
Genetics (Plant Science)
Landscape Management (Plant Science)
Plant Pathology (Plant Science)
Pomology (Plant Science)
Vegetable Crops (Plant Science)
Viticulture (Plant Science)
Animal Science:
- Animal Husbandry
- Animal Physiology and Genetics
- Poultry Husbandry

Entomology and Parasitology
Farm Management
Food Science:
- Dairy Industry Program
- Food Technology Program

Home Economics
Pre-Forestry
Pre-Veterinary Medicine
Range Management
Soil Science:
- General Soil Science Program

Soil Management and Conservation Program

Agriculture (Vocational)

See "Ornamental Horticulture" and "Vocational Gardening."

Anthropology

The student who intends to transfer a major in Anthropology should plan his 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 he wishes to transfer.

Apprenticeship (Trade Related)

The Evening College offers classes for the upgrading of journeymen in the trades, as well as related training classes for apprentices.

Archeology

See "Anthropology."

Architecture

Associate in Arts Degree with a Major in Architecture

Recommended High School Preparation: Academic program including Mathematics (4 years), Art (1 year), Mechanical Drawing (1 semester).

Freshman Year	Units F	Units S
Arch. 10—Survey	3	
Arch. 11, 12—Graphics	1	1
Arch. 21, 22—Arch. Design	4	4
Arch. 16—El Statics		3
Math.—by Eligibility	3	3
English—by Eligibility	3	3
Health Education	2	
*Elective		2
Physical Education	½	½
	16½	16½

Sophomore Year	Units F	Units S
Arch. 23, 24—Arch. Design	4	4
Arch. 17—Strength of Material	3	
Physics 2a, 2b—General Physics	4	4
Engin. 1a or Engin. 90a—El. Surveying	3	
Polit. Sci. 21—Amer. Inst.		3
Speech	3	
Polit. Sci. 23—State and Local Government		2
*Electives		3
Physical Education	½	½
	17½	16½

*Elective units should be chosen to satisfy general education requirements.

Architecture (Landscape)

Architecture (City and Regional Planning)

Architecture (Architectural Engineering)

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

Art

The student who intends to transfer a major in Art should plan his 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, university or art school to which he wishes to transfer. Students can plan their course in any of the following areas: Fine Arts, Commercial Art, Home Furnishings and Interior Design, and Photography.

An Associate in Arts degree is awarded with a major in Art in any of the following suggested program plans:

Art (Commercial)

Associate in Arts Degree with a Major in Commercial Art

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

Freshman Year	Units F	Units S
Art 1a-1b—History of Art	3	3
Art 2a-2b—Form & Comp.	3	3
Art 3a-3b—Color Technology	3	3
Art 4—Perspective		2
Art 12a—Lettering	2	
English—by Eligibility	3	3
Health Education		2
Polit. Sci. 23—State and Local Government	2	
Physical Education	½	½
	17½	16½

Sophomore Year	Units F	Units S
Art 5a-5b—Design	3	3
Art 6a—Oil Painting	3	
Art 12c—Brush Lettering	1	
Art 15—Life Drawing		2
Art 10—Introduction to the Arts	3	
Art 52—Figure Sketch.	2	
Art 53—Fashion Illus.		2
Art 54—Advertising Art		2
Polit. Sci. 21—Amer. Inst.	3	
Gen. Edu. Electives		6
Physical Education	½	½
	15½	15½

Suggested Electives

Speech 1a—Fundamentals	(3)	Guidance 10—Intro. to College	(2)
Business 120—Advertising	(2)	Art courses not listed above	

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.

Art (Fine Arts)

Associate in Arts Degree with a Major in Fine Arts

Freshman Year	Units F	Units S
Art 1a-1b—History of Art	3	3
Art 2a-2b—Form & Comp.	3	3
Art 3a-3b—Color Technology	3	3
Art 4—Perspective		2
Art 19—Art Communication	3	
English—by Eligibility	3	3
Polit. Sci. 23—State and Local Government		2
Physical Education	½	½
	15½	16½

Sophomore Year	Units F	Units S
Art 5a-5b—Design	3	3
Art 6a-6b—Oil Painting	3	3
Art 7—Watercolor		3
Art 15—Life Drawing		2
Art 17a-17b—Etching	2	2
Health Education	2	
Polit. Sci. 21—Amer. Inst.	3	
Science Requirement		3
Speech Elective	3	
Physical Education	½	½
	16½	16½

Art (Home Furnishings and Interior Design)

Associate in Arts Degree with a Major in Home Furnishings and Interior Design

Freshman Year	Units F	Units S
Art 5a-5b—Design	3	3
Art 12a—Lettering		2
Art 14—Essentials of Drafting		3
Art 19—Art Communication	3	
English—by Eligibility	3	
Health Education	2	
Bus. 58—Human Relations or Psych. 1a	3	
Bus. 50—Business Arithmetic, or Bus. 51	2	
Bus. 10—Intro.		3
Speech 62—Essentials		3
Polit. Sci. 23—State and Local Government		2
Physical Education	½	½
	16½	16½

Sophomore Year	Units F	Units S
Art 3a-3b—Color Technology	3	3
Art 1a-1b—Art History	3	3
Art 68a-68b—Interior Design	3	3
Bus. 110—Salesmanship	3	
Bus. 116—Merchandising	3	
Gen. Ed. Electives		3
Polit. Sci. 21—Amer. Inst.	3	
Physical Education	½	½
	15½	15½

Suggested Electives

Art 2b—Adv. Form & Comp.	(3)
Art 4—Perspective	(3)
Art 25—Crafts	(3)
Art 72a-b—Plant Form & Design	(2-2)

Art (Photography)

Associate in Arts Degree with a Major in Photography

Freshman Year	Units F	Units S
English—by Eligibility	3	3
Art 2a—Form & Comp.	3	
Art 3a—Color Technology		3
Art 5a—Design		3
Art 40—Visual Interp.	3	
Art 41a-b—Photography	3	3
Art 43a—Elem. Color Photography		3
Physical or Life Science	3	
Physical Education	½	½
	15½	15½

Sophomore Year	Units F	Units S
Art 5b—Adv. Design	3	
Art 41c—Photography Workshop		3
Art 42a-b—Adv. Photo.	3	3
Art 43b—Adv. Color Photo.	3	
Art 49—Spec. Photo. Proj.		2
Polit. Sci. 21—Amer. Inst.	3	
Polit. Sci. 23—State and Local Government		2
Health Education		2
Electives	3	4
Physical Education	½	½
	15½	16½

Astronomy

See note below after "Botany."

Bacteriology

See note below after "Botany."

Biochemistry

See note below after "Botany."

Biology

See note below after "Botany."

Biophysics

See note below after "Botany."

Botany

Note: The student who intends to transfer a major in one of these fields should plan his 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 he wishes to transfer.

Broadcasting

See "Telecommunications."

Business Administration

Transfer Program

Recommended High School Preparation: Elementary Algebra, Intermediate Algebra, Plane Geometry, Trigonometry, Chemistry or Physics, Foreign Language.

The program outlined below is typical of requirements for transfer in junior standing to a four-year college or university.

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

The program outlined below is typical of requirements for transfer in junior standing to a state college.

	Units		Units
*English 1a-1b	6	*Literature, Philosophy and Arts	9
Physical and Life Science	6-9	(At least one in Philosophy or Literature)	
Economics 1a and 1b	6	Psychology 1a	3
†Bus. Adm. 1a and 1b	8	Health Education	2
Bus. Adm. 18a	3	Social Sciences	6-9
Physical Education	2	(Including American History, U.S. Constitution and California Government)	
*G. E. Electives	6		
Economics 2	3		

Students graduating with a major in the field of Business must achieve a percentile rating of 35 or over on 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.

*Speech 1a is required at San Jose State College and may be substituted for English 1b. Logic or Ethics and Finite Math are required by San Jose State.

†It is recommended that Accounting majors take Bus. Adm. 1a-1b in their sophomore year.

Business

Terminal 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 35 or over on 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, or **Management 99**—Introduction to Business Management offered in Evening College.

Business Administration (Two-Year Program)

Associate in Arts Degree with a Major in Business Administration

This curriculum is for the Business student who does not wish to specialize.

Freshman Year	**Units**	
	F	**S**
Bus. 58—Human Relations		3
Health Education		2
Bus. 92—Typing	3	
English—by Eligibility	3-5	
Bus. 66—Gen. Acc't or Bus. Adm. 1a	4	
Bus. 50 or 51—Basic Math.	2-3	
Bus. Adm. 18a—Commercial Law		3
Bus. 10—Introduction to Business	3	
Bus. 65—Small Business Management		3
Data Proc. 60—Intro. to Data Processing		3
Physical Education	½	½
	15½	14½

Sophomore Year	**Units**	
	F	**S**
Bus. 56—Bus. Corres.	3	
Polit. Sci. 21—Amer. Inst.		3
Polit. Sci. 23—State and Local Government	1	
Bus. 93—Machine Calculation		3
Gen. Educ. Electives	3	3
Econ. 1a-1b—Prin. of Econ.	3	3
Bus. 82a—Insurance	3	
Business Electives	3	3
Physical Education	½	½
	16½	15½

Suggested Electives

Bus. Adm. 18b—Adv. Commercial Law (3)
Bus. 110—Fundamentals of Salesmanship (3)
Bus. 116—Retail Principles and Practices (3)
Bus. 118—Supervisory Mgt. (3)
Bus. 81—Security Investments (3)
Bus. 69—Income Tax Accounting (3)
Bus. 70a—Principles of Transportation (3)
Bus. 83a—Real Estate Principles (3)
Guidance 10—Introduction to College (2)
Bus. 82a—Principles of Insurance (3)

Business (Secretarial)

Associate in Arts Degree with a Secretarial Major

Recommended High School Preparation: Typing, Shorthand (Gregg System), Business English, Business Arithmetic and Office Machines.

Freshman Year	Units F	Units S
Health Education		2
Bus. 92a or 92b—Typing	3	
English—Bus. Eng. or Eng. A	3	3
Bus. 66—Gen. Acc't	4	
Bus. 50 or 51—Arithmetic	2-3	
Bus. 93—Mach. Calculation	3	
Bus. 10—Intro. to Business		3
Bus. 90a-b or c—Shorthand (Gregg)		5
Gen. Ed. Electives		3
Physical Education	½	½
	15½	16½

Sophomore Year	Units F	Units S
Bus. 56—Bus. Corres.	3	
Bus. 92b or 92c—Typing	3	
Bus. 90b or Shorthand (Gregg)	7	5
Bus. 100a—Office Procedures	3	
Polit. Sci. 21—Amer. Inst.		3
Polit. Sci. 23—State and Local Government		2
Gen. Ed. Electives		3
Bus. 108a—Office Internship		3
Physical Education	½	½
	16½	16½

See Business section for division requirements for all Business majors.

Suggested Electives

Guidance 10—Intro. to College	(2)	Bus. 58—Human Relations	(3)
Geography 1b—Cultural Geog.	(3)	Bus. 81—Security Investments	(3)
Bus. 69—Income Tax Acc't	(3)	Bus. 82a—Insurance	(3)
Bus. 35—Pers. & Fam. Finance	(3)	Bus. 83a—Real Estate	(3)
		Bus. Adm. 18a—Comm. Law	(3)

Secretarial Certificate Program Requirements

Remedial Courses (if required by testing)

Core Courses	**Units**
Bus. 92a-b-c—Typing (through 92c)	3-9
Bus. 90a-b-c—Shorthand (through 90c)	3-15
Bus. 100a—Office Procedures	3
Bus. 10—Introduction to Business	3
Bus. 108a—Internship	3
Related Courses	9
English (Business English recommended)	5-6
Speech	3
	32-51

Students wishing to major in one of the Specialized Secretarial Programs should plan their programs to include the regular Secretarial courses plus the following:

Medical—Bus. 57, 59, 90m, 100m

Legal—Bus. 100L, 90L

Technical—Bus. 92T, 90T, 100T

Business (Medical Secretarial)

Associate in Arts Degree with a Medical Secretarial Major

Freshman Year	**Units**	
	F	**S**
English A	3	
Bus. 10—Intro. to Business	3	
Bus. 92b or 92c—Typing	3	
Bus. 90b-c—Shorthand	7	4
Bus. 57—Medical Terminology		3
Bus. 59—Intro. to Medical Office Training		3
Bus. 100a—Office Procedures		3
Anatomy 51—Body Structure		2
Physical Education	½	½
	16½	15½

Sophomore Year	**Units**	
	F	**S**
English 1a—Read and Composition	3	
Bus. 90m—Medical Shorthand		2
Bus. 100m—Medical Office Procedures		3
Health Education		2
Speech 62—Fundamentals	3	
Gen. Ed. Electives	3	3
Bus. 58—Human Relations	3	
Bus. 108s—Spec. Office Internship		3
Nursing 60—Medical Assisting		3
Polit. Sci. 21—American Inst.	3	
Polit. Sci. 23—State and Local Government	2	
Physical Education	½	½
	17½	16½

Business (Legal or Technical Secretarial)

Associate in Arts Degree with Legal or Technical Secretarial Major

Freshman Year	Units F	Units S
Bus. 92b-c—Typing	7	4
Bus. 90b-c—Shorthand	3	3
English	3	3
Health Education	2	
Bus. 100a—Office Procedures		3
Bus. Adm. 18a—Commercial Law, or Art 14		3
Physical Education	½	½
	15½	16½

Sophomore Year	Units F	Units S
Bus. 100L or T—Office Procedures	3	
Bus. 90L or T—Shorthand	3	
Bus. 108s—Internship		3
Gen. Ed. Electives	3	3
Electives	3	6
Polit. Sci. 23—State and Local Government	2	
Polit. Sci. 21—Amer. Inst.		3
Bus. 10—Introduction	3	
Physical Education	½	½
	17½	15½

Suggested Electives

Legal Secretary—Speech 62 or 1a, Psychology 1a, Bus. 58 and Bus. 66

Technical Secretary—Aero. 1, Electronics 10 or Physical Science 10, Bus. 58 and Bus. 66

Technical Secretarial majors must take Bus. 92t—Typing

Business (General Clerical)

Associate in Arts Degree with a General Clerical Major

Freshman Year	Units F	Units S
Health Education	2	
Bus. 92a, b, or c	3	3
English and Business English	3	3-5
Gen. Ed. Electives	3	
Bus. 50 or 51—Bus. Math.		2
Bus. 56—Bus. Corres.		3
Bus. 58—Human Relations		3
Bus. 10—Introduction	3	
Physical Education	½	½
	14½	16½

Sophomore Year	Units F	Units S
Data Proc. 60		3
Bus. 93—Mach. Cal.	3	
History 17a-17b—American	3	3
Bus. 100a—Office Procedure	3	
Polit. Sci. 23		2
Gen. Ed. Electives	3	3
Business Electives		3
Bus. 66 or Bus. Adm. 1a	4	
Bus. 108a—Office Internship		3
Physical Education	½	½
	16½	17½

Suggested Electives

Bus. 35—Personal Finance	(3)	Speech 62—Elements	(3)
Bus.97—Card Punch	(3)	Guidance 10—Introduction to College	(2)
Bus. Adm. 18a—Comm. Law	(3)		
Bus. 83a—Real Estate Prin.	(3)		

Clerk-Typist Certificate Program

Remedial Courses (if required by testing)

Core Courses	**Units**
Bus. 92a-b-c—Typing (through 92c)	3-9
Bus. 100a—Office Procedures	3
Bus. 10—Introduction to Business	3
Related Courses	9
Bus. 108a—Internship	3
English A or Business English	3
Electives	3
	27-33

Business (Medical Assisting)

Associate in Arts Degree with a Major in Medical Assisting

Freshman Year	**Units** F	S	**Sophomore Year**	**Units** F	S
Bus. 92b or 92c—Typing	3		Polit. Sci. 21—Amer. Inst.	3	
Bus. 10—Intro. to Bus.	3		Bus. 58—Human Relations	3	
*English A and 1a	3	3	Nursing 60—Medical Assisting		3
Bus. 50 or 51—Bus. Arith.	2-3		Bus. 108s—Spec. Office Internship		3
Bus. 66—Accounting	4		Bus. 100m—Medical Office Procedures		3
Anatomy 51—Body Structure		2	Speech 62—Fundamentals	3	
Bus. 57—Medical Terminology		3	Health Education	2	
Bus. 59—Intro. to Med. Office Training		3	Econ. 1a—Principles		3
Polit. Sci. 23—State and Local Gov.		2	Gen. Ed. Electives	3	3
Bus. 100a—Office Procedures		3	Physical Education	½	½
Physical Education	½	½			
	15½	16½		14½	15½

Students whose score on the Mathematics Section of the SCAT Test is below the 35th percentile are required to take Business 50, Business Arithmetic.
*By qualification on English Placement test.

Business (Merchandising)

Certificate Program

It is recommended that the student complete the requirements for the Associate in Arts degree in addition to the Certificate Program.

Required Courses

First Semester	Units	Third Semester	Units
Bus. 50—Bus. Arith. (if required by test)	2	Speech 62—Elements	3
Bus. 10—Intro. to Business	3	Bus. 109a—Mdsg. Internship	3
Bus. 58—Human Relations	3	One Course in Merchandising in area of concentration	3
Second Semester		**Fourth Semester**	
Bus. 110—Fund. of Salesmanship	3	Bus. 118—Supervisory Mgmt.	3
Bus. 116—Merchandising	3	Bus. 109b—Mdsg. Internship	3
One Course in Merchandising in area of concentration	3	One Course in Merchandising in area of concentration	3

Areas of Concentration (one area required)

Merchandising Management (9 units): Bus. 65—Small Business Mgt. and two courses from the following: Bus. 51—Bus. Math., Data Proc. 60—Intro. to Data Processing, Bus. 66—Gen. Accounting or Bus. Adm. 1a, Bus. 120—Advertising, Bus. 124—Marketing. Recommended elective, Bus. 92a—Typing.

Merchandising-Home Furnishings (9 units): Art 3a—Color Technology, Art 68a-b—Interior Design. Recommended electives, Arch. 14—Essentials of Drafting and Bus. 92a—Typing.

Merchandising-General (9 units): Three courses in Business and Art selected from areas of concentration or any other Business course.

Associate in Arts Degree Program

By completing the Certificate Program and the additional courses listed below, the student is eligible for both the Certificate in Merchandising and the Associate in Arts degree.

American History and Institutions, and State and Local Government.

English: First course by placement examination. Speech 62 recommended for second course.

Health and Physical Education.

General Education elective in Science or Math.

General Education elective in Humanities; Art 19 recommended.

Free electives to complete a total of 60 units.

Business (Real Estate)

Plan I—Associate in Arts Degree with a Major in Real Estate

Freshman Year	Units F	Units S
Bus. 50—Arith., or Bus. 51	2-3	
Bus. 83a—Real Estate Principles	3	
Bus. 84—Real Prop. Invest., Valuation & Management	3	
English—by Eligibility	3	3
Bus. 82a—Insurance		3
Bus. 10—Intro. to Bus.		3
†Bus. 83b—Real Estate Principles, Adv.		4
Bus. Adm. 18a—Commercial Law		3
Bus. 66 or Bus. Adm. 1a—Accounting	4	
Physical Education	½	½
	15½	16½

Sophomore Year	Units F	Units S
†Bus. 87—Legal Aspects of Real Estate	3	
Bus. 81—Security Investments		3
Polit. Sci. 23—State and Local Government	2	
Polit. Sci. 21—American Institutions		3
Econ. 1a—Principles	3	
Gen. Ed. Electives	3	3
*Bus. 110—Fund. of Salesmanship	3	
†Bus. 88—Real Estate Finance		3
Health Education	2	
Bus. 56—Bus. Corres. or Bus. 120—Advertising		3
Physical Education	½	½
	16½	15½

See Business section for division requirements for all Business majors.

*Bus. 111—R. E. Salesmanship (2) (Evening College) may be substituted.
†Offered under Evening College Program in the daytime.

Suggested Electives

	Units		Units
Speech 62—Elements	3	Bus. 58—Human Relations	3
Bus. 83c—Real Estate Math. Optional, but must be taken concurrently with Bus. 83b	1	Guidance 10—Intro. to College	2
		Psychology 1a—Gen. Psychology	3
		Bus. 69—Income Tax Acc'tg	3
Arch. 10—Survey of Contemporary Architecture	3	Bus. 92a—Typing	3
		Econ. 1b—Principles	3
Bus. Adm. 18b—Advanced Law	3		

Plan II—Professional Real Estate Certificate Program (Evening College)

(See Real Estate Brochure for program specifics.)

Basic Training (Required)

Bus. 83a—Real Estate Principles (for salesman's license)	3	Bus. 84—Real Estate Valuation, Investment and Management	3

Professional Courses (Required)

(Prerequisite)
(a) A Real Estate Broker's or Salesman's License, or
(b) Completion of Business 83a and 84 and consent of instructior

Bus. 85—Real Estate Practice or Bus. 83b—Real Estate Principles, Advanced. (Either meets State requirements for salesman's and broker's license.) 3-4
Bus. 87—Legal Aspects of Real Estate (for Broker's License) 3
Bus. 88—Real Estate Finance 3
Bus. 131—Real Estate Economics 3
(**Note:** Bus. 83a — Real Estate Principles, Basic—may be accepted as a substitute for this course.)
Bus. 134—Real Estate Appraisal 3

Advanced Professional Elective Courses

Three advanced courses selected from the following list are required:

*Bus. 83b—Real Estate Principles, Advanced 4
Bus. 130—Foundations of California Real Estate 3
Bus. 133—Building Cost Estimating 3
Bus. 135—Advanced Real Estate Appraisal (urban) 3
Bus. 136—Advanced Real Estate Appraisal (rural) 3
Bus. 138—Real Estate Exchanges and Taxation 3
Bus. 139—Commercial and Investment Property 3
Bus. 140—Real Estate Math. 3

*Bus. 83c—Real Estate Math. may be taken concurrently, but is not a substitute for Bus. 140.

Special Professional Courses

(These courses may not be used for Certificate Credit)

Bus. 145a—Title Examining Procedures, Basic 3
Bus. 145b—Escrow Procedures, Basic 3
Bus. 145c—Title Examining Procedures, Advanced 3

Alternate Methods of Satisfying Real Estate Certificate Requirements

1. Candidates may satisfy not more than 12 units of the required 24 with
ity and cover subjects comparable to those included in this program. This credit
courses completed at other collegiate institutions which are of satisfactory qual-
does not automatically apply to the Associate in Arts degree.

2. Upon application, a student may meet subject requirements by courses satisfactorily completed through the American Institute of Real Estate Appraisers, the Institute of Real Estate Management, or courses taken in applied fields. This credit does not apply toward the Associate in Arts Degree.

CAREER OPPORTUNITIES

Since the course prepares for the State Examinations, some students who take Plan I or Plan II become real estate salesmen or brokers. Other students find employment with banks or other institutions which make loans on real property, or they become investors or managers of income property. Many students will use this type of information in purchasing a home or income property.

Business (Transportation)

Associate in Arts Degree with a Major in Transportation

Freshman Year	**Units** F	S	**Sophomore Year**	**Units** F	S
English—by Eligibility	5	3	Bus. 124—Marketing		3
Bus. 50 or 51—Arithmetic	2-3		Bus. 70b—Traffic Mgt.		3
Bus. 10—Intro. to Bus.		3	Bus. Adm. 18a—Comm. Law	3	
Bus. 70a—Transportation		3	Geog. 1a—Physical		3
Econ. 1a-1b—Principles	3	3	Hist. 17a-b—American	3	3
Geog. 5a—World Regional	3		Bus. Adm. 1a or Bus. 66—Accounting	4	
Geog. 4—Economic		3	Polit. Sci. 23—State and Local Government		2
Health Education	2		Bus. 65—Small Business Management		3
Physical Education	½	½	Gen. Ed. Electives	3	3
			Physical Education	½	½
	15½	15½		16½	17½

See Business section for division requirements for all Business majors.

Suggested Electives

Econ. 2—Statistics	(4)	Bus. Adm. 18b—Adv. Comm. Law	(3)
Econ. 11—Econ. Hist. U.S.	(3)	Psych. 1a—General	(3)

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.

Business (Management)

Evening College Certificate Program

The Certificate in Management is awarded by College of San Mateo upon completion of four required courses, and four elective courses in the Management Program. Each of these courses carries three units of lower division college credit. The 24 units earned in the certificate program will fulfill the major requirement 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.

For information concerning specific courses included in this program, refer to the Evening College catalog.

Chemistry

See "Physical Sciences."

Cooperative Education

Cooperative Education endeavors to give the student field experience which is related to his major. 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 Alternate Semester Plan provides the student with full-time field experience for half a year. The second half of the year is spent in school.

Further information is available in Building 1, Room 251.

Cosmetology (Beautician)

Requirements: Good physical condition and evidence of emotional stability. Four years of high school or equivalent. Prior to admission, screening and grade achievement tests are given; records are evaluated by a screening committee, and a personal interview is held.

Recommended High School Preparation: Art, Chemistry, Typing and Business Courses, Foreign Language, General Science, Home Economics and Speech.

The cosmetology classes operate for six hours in Plans I and II and for six to eight hours in Plan III. The student completes 1600 hours of cosmetology training in one year and summer session or two years, in preparation for the California State Board of Cosmetology Examination.

Plan I—Associate in Arts Degree with a Major in Cosmetology

Freshman Year	Units F	Units S	Sophomore Year	Units F	Units S
Cosmetology 50	10-14	10-14	Cosmetology 51	10-14	10-14
English—by Eligibility	3	3	Polit. Sci. 21—Amer. Inst.	3	
Bus. 50—Bus. Arith.	2		Polit. Sci. 23—State and Local Government		2
*Art 80—Line, Design, Form and Color		2	Gen. Ed. Electives	2	
Physical Education	½	½	Health Education	2	
			Physical Education	½	½
	15½	15½		15½	16½

*Art 80 or Art 63a—Fashion Design (2) is required.

Plan II—Associate in Arts Degree with a Major in Cosmetology

Freshman Year	Units F	Units S	Sophomore Year	Units F	Units S
English—by Eligibility	3	3	Cosmetology 50, 51	14	14
Hist. 17a-17b—American	3	3	Physical Education	½	½
Polit. Sci. 23—State and Local Government	2				
Health Education	2				
Bus. 50—Bus. Arith.	2				
Art 80—Line, Design, Form and Color	2				
Gen. Ed. Elective	2				
Cosmetology 50		10			
Physical Education	½	½			
	16½	16½		14½	14½

Recommended General Education Electives for Plans I and II

Bus. 58—Human Relations	(3)	Speech 62———Elements	(3)
Bus. 66—General Accounting	(4)	Psychology 1a—General	(3)
		Sociology 1—Introduction	(3)

Plan III—Prepares for Employment at End of Freshman Year

	Units
Cosmetology 50	10-14
Cosmetology 51	10-14
Physical Education (if required)	

Special Courses in Cosmetology

Cosmet. 52—Cosmetologist (Brush-up) Units to be determined

1. Refresher course—upgrading persons who hold California Cosmetologist License.
2. Refresher course for out-of-state Cosmetologist 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. 90—Advanced Workshop 1 unit
(Offered in the Evening College.)

Art 80—Line, Design, Form, Color 2 units

Criminology

The student who intends to transfer a major in Criminology should plan his 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 he wishes to transfer.

Data Processing

Associate in Arts Degree with a Major in Data Processing

Freshman Year	Units F	Units S	Sophomore Year	Units F	Units S
D.P. 60—Introduction to Data Processing	3		D.P. 63—RPG Programming	3	
D.P. 61—Punched Card Equipment Oper. and Wiring or D. P. Elec.		4	D.P. 64a—Basic COBOL Programming	3	
D.P. 62—Basic Computer Programming		4	D.P. 64b—Advanced COBOL Programming		3
Math. Elective	3		Polit. Sci. 21—Amer. Inst.		3
*Econ. 1a-1b—Principles of Economics	3	3	Bus. Adm. 1a and 1b—Acounting	4	4
or			or		
Bus. 10 and Bus. Elective			Bus. 66 and Bus. Elective		
English—by Eligibility	3	3	Health Education		2
†D.P. 97—Card Punch or Gen. Ed. Elective	3		Gen. Ed. Electives	4	3
Physical Education	½	½	Physical Education	½	½
	15½	14½		14½	15½

Suggested Electives

Business 105	Philosophy 6a and 6b
Data Processing 106	Philosophy 7 and 12
Mathematics 25	Chemistry 10 and 10L
Biology 10a and 10b	English Literature
	D. P. 65a, 65b
	D. P. 66

*Or Economics 7 and elective.

†Optional for men; strongly recommended for women.

Decorative Art

See "Art."

Dental Assisting

Associate in Arts Degree with a Major in Dental Assisting

Freshman Year	Units F	Units S	Sophomore Year	Units F	Units S
D.A. 50a-b—Dental Science and Anatomy	3	3	D.A. 60a-b—Dental Lab Procedures	3	3
D.A. 51a-b—The Dental Assistant in Practice	3	3	D.A. 61a-b—Dental X-ray	3	3
English	3	3	D.A. 62a-b—Operating Room Procedures	3	3
Bact. 51—Dental Assisting Bacteriology	2		D.A. 63a-b—Practice Management	3	3
Health Education		2	D.A. 64c—Clinical Practice	1	1
Polit. Sci. 23—State and Local Government		2	Polit. Sci. 21—Amer. Inst.	3	
Gen. Ed. Electives	3	3	Physical Education	½	½
Physical Education	½	½			
	14½	16½		16½	13½

Proficiency in typing is required for the sophomore work and recommended for the freshman work.

Successful completion of freshman work is a prerequisite for entry into the sophomore year.

CAREER OPPORTUNITIES

A variety of employment opportunities exists in the general practice, the specialist's office (pedodontist, orthodontist, periodontist, oral surgeon, endodontist, etc.), government clinics and hospitals, and women's branches of the armed forces.

Dental Hygiene

See "Medical Sciences."

Dentistry

See "Medical Sciences."

Dietetics

See "Home Economics."

Drama

The program outlined below is typical of requirements to transfer in junior standing to a four-year college or university. The student should refer to the catalog of the college of his choice for special requirements. Terminal Drama students should refer to General Education course requirements under "Graduation Requirements."

	Units		Units
English and/or Speech by Eligibility	6	Humanities—Music, Art, Literature, Philosophy	3
Social Science		Foreign Language (continuing from high school)	5-10
American Institutions and/or U.S. History	4-8	Health Education	2
Psychology 1a or Elective	3-5	Physical Education	2
		Major units (minimum)	20

It is suggested that the Drama Major take the following courses:

Freshman Year	Units	Sophomore Year	Units
Drama 10—Intro. to Theatre	3	Drama 14a—Act. Theory and Practice	3
Drama 12—Stage Production	3	Drama 1a-1b—History of Theatre	6
Drama 2a-2b—Dramatic Literature	6	Drama 26—Theatre Graphics	3

Drama Electives

	Units		Units
Drama 13—Lighting	3	Drama 16—Production Shop	½-2
Drama 14b—Acting Theory and Practice	3	Drama 17—Costume Fashion Workshop	½-2
Drama 15—Play Production	½-2	Drama 49—Special Projects	½-2

Other Recommended Electives

	Units		Units
English 25—Shakespeare	3	Architecture 14	3
Speech 2a—Fundamentals of Oral Expression	3	Art 7—Watercolor	3
Speech 33—Voice and Articulation	3	Music 3—History and Appreciation	3
Art 1a-1b—Art History	3-3	Physical Education—Elementary Fencing	½
Art 2a-2b—Form and Composition	3-3	Physical Education—Intermediate Fencing	½
Art 3a-3b—Color Technology	3-3	Physical Education—Elem. Ballet and Modern Dance	½
Art 5a-5b—Design	3-3	Physical Education—Dance Production	½
Art 13a—Pencil Drawing	3	Physical Education—Elem. Jazz and Modern Dance	½
Art 13b—Pen Drawing	3	Physical Education—Aquacade Production	½
Art 15—Life Drawing	2		
Art 52—Figure Sketching	2		
Art 53—Fashion Illustration	2		
Art 63a—Fashion Design	2		
Art 63b—Fashion Design	2		
Art 4—Perspective	2		

Economics

See "Social Science."

Education

Transfer Program

Recommended High School Preparation: History, English (four years), Foreign Language (three years in one language—Spanish is strongly recommended for Elementary teachers in California), Algebra, Geometry, Chemistry or Physics.

Students who plan to qualify for the Standard Teaching Credential, with a specialization in elementary teaching or secondary teaching, must present a Teaching major. In addition, three courses in English, including a course in English Composition, are required for both credentials.

The program outlined below is typical of requirements for transfer in junior standing to a four-year college or university and for entry into a teaching credential program.

The student should refer to the catalog of the college of his choice for special requirements.

	Units		Units
English 1a-1b—Reading and Composition	6	Psychology 1a, 33	6
Foreign Language (continuing ing from high school)	5-10	Education 1	2
Physical Science	3-8	Physical Education (one course each semester)	2
Life Science	3-8	Humanities (Art, Music, Literature)	6
History	6	Speech	3
Polit. Sci. 21, 23 (Amer. Inst.)	5	Electives	10
Health Education	2		

All standard elementary teaching credentials now require completion of at least one course equivalent to Math. 16.

Electives will be used to complete the particular requirements of the transfer school. Music 8 and Art 8 are strongly recommended for the elementary teacher.

Education (Teacher Assistant)

Plan I—Associate in Arts Degree with a Major in Teacher 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 in turtoring individuals or groups and performing a wide variety of other tasks in the classroom.

Required Courses for the Major	**Units**
Ed. 1—Introduction to Education	2
Ed. 2—The Teacher Assistant	3
Ed. 3—Reading in Public Schools	3
Bus. 92a, b, or r—Typing (or proof of typing competency)	3
Speech 62a, 1a, or 33—Speech (by advice of counselor)	3
Psychology 1a, or 53, or 51—Psychology (by advice of counselor)	3
Cooperative Education Field Experience	3
Total	20

Suggested Electives	
Lib. Tech 55—Non Book Materials	3
Math 16—Content of Elementary School Math	3
Music 8—Fundamentals for the Classroom Teacher	3
Art 8—Public School Art	3
Bus. 100—Office Procedure	3
—Physical Science, Life Science, Biology	3-7

Plan II—Certificate Program for the Teacher Assistant

Total	**24 units**
Required Courses (from the foregoing list of required courses)	**20 units**
Suggested Electives (from the foregoing list of suggested electives)	**4 units**

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.

Engineering (Aeronautical)
Engineering (Agricultural)
Engineering (Architectural)
Engineering (Ceramic)
Engineering (Chemical)
Engineering (Civil)
Engineering (Communication)
Engineering (Electrical)
Engineering (Industrial)
Engineering (Mechanical)
Engineering (Metallurgical)
Engineering (Mining)
Engineering (Nuclear)

Refer to the basic Engineering program below.

Engineering (Basic Program)

The basic Engineering program detailed on page 91 prepares for transfer to a four-year college or university at the end of the sophomore year. The student

Engineering (Basic Program—continued)

should refer to the catalog of the college of his choice for special requirements.

Recommended High School Preparation: Mathematics (four years), Chemistry (one year), Physics (one year), Mechanical Drawing (one year).

Freshman Year	Units F	Units S
Engin. 4—Engin. Prof.	2	
Engin. 20—Descrip. Geometry	2	
Engin. 22—Graphics		2
Math. 31-32—Calculus	4	4
Chem. 1a-1b—General	5	5
Physics 4a—General		4
Health Education		2
Physical Education	½	½
Elective	3	
	16½	17½

Sophomore Year	Units F	Units S
Engin. 35—Statics	3	
Engin. 38—Circuits and Devices		3
Engin. 45—Prop. of Mat.	3	
Math. 33—Calculus	4	
Math. 34—Ordinary Differential Equations		3
Physics 4b-4c—General	4	4
Polit. Sci. 23—State and Local Government		2
Polit. Sci. 21—Amer. Inst.		3
Eng. 1a—Reading and Composition	3	
Physical Education	½	½
Elective		3
	17½	18½

Suggested Electives

	Units
Engin. 1a—Measurements	3
Math. 25—Computer Programming	3
Geology 1a—General	3
Speech 1a	3
A Life Science course	

English

See note below after "Entomology."

Entomology

Note: The student who intends to transfer a major in one of these fields should plan his 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 he wishes to transfer.

Ethnic Studies

Fire Science Training

Evening College Certificate Program

Fire Science Training is divided into two parts. Fifteen units of course work leads to the initial certificate. An advanced certificate is awarded upon completion of an additional 15 units. A minimum of 12 of the 15 units for the initial certificate, or 27 of the 30 units for the advanced certificate must be completed at this College. Three units in approved courses in related fields other than Fire Science Training may be counted toward the above certificates; e.g., Public Speaking, Report Writing, Public Relations, Business Law, First Aid, Political Science and Human Relations.

Foreign Languages

See note below after "History."

Forestry

See note below after "History."

Genetics

See note below after "History."

Geography

See note below after "History."

Also see "Social Science."

Geology

See note below after "History."

Geophysics

See note below after "History."

History

Also see "Social Science."

Note: The student who intends to transfer a major in one of these fields should plan his 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 he wishes to transfer.

Home Economics

Transfer Program

The student who intends to transfer a major in Home Economics should plan his 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 he wishes to transfer.

Home Economics

Associate in Arts Degree with a Major in Home Economics

Freshman Year	Units F	Units S
Home Econ. 1a-1b—Foods	3	3
Home Econ. 24—Clothing Selection		2
Gen. Ed Elective		2
Bus. 35—Personal and Family Finance		3
Art 68a—Interior Design	3	
Psych. 1a—General	3	
Psych. 4—Marriage		3
English and/or Speech	3	3
Polit. Sci. 23—State and Local Government	2	
Health Education	2	
Physical Education	½	½
	16½	16½

Sophomore Year	Units F	Units S
Home Econ. 20a-20b—Clothing	3	3
Home Econ. 9—Nutrition	2	
Home Econ. 40—Home Furnishings		3
Anthropology 2—Cultural	3	
Art 72a—Plant Form	2	
Hist. 17a-17b—American	3	3
Gen. Ed. Elective	2	3
Psych. 5—Child Psych.		3
Physical Education	½	½
	15½	15½

CAREER OPPORTUNITIES

Home Economics education will be useful to every young person who expects to manage a home as part of her life's career. In addition, it will assist in providing employment opportunities in fashion merchandising or test kitchens, or as an airline hostess, teacher assistant in nurseries or child care centers, diet clerk in hospitals or nursing homes, appliance demonstrator, or volunteer employee in world food, health and home programs.

Home Furnishings

See "Business — Merchandising" and "Art — Home Furnishings and Interior Design.

Humanities

See "Liberal Arts."

Interior Design

See note on next page after "Law."
Also see "Art—Home Furnishings and Interior Design."

International Relations

See note on next page after "Law."
Also see "Social Science."

Journalism

See note on next page after "Law."

Law

Note: The student who intends to transfer a major in one of these fields should plan his 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 he wishes to transfer.

Liberal Arts

Transfer Program

Recommended High School Preparation: English (three years), Elementary Algebra, Plane Geometry, Intermediate Algebra, Laboratory Science taken in junior or senior year, Foreign Language (two years in same language). (High school Foreign Language and a Laboratory Science are not required for transfer to some institutions.)

The program outlined below is typical of requirements for transfer in junior standing to a four-year college or university. The student should refer to the catalog of the college of his choice for special requirements.

	Units		Units
English 1a, English 1b or Speech 1a	6	For Major Requirements in specific subject fields confer with a counselor	
Physical Science	3-8	Health Education	2
Biological Science	3-8	Physical Education	2
Social Science		Foreign Language (Continuing from high school)	5-10
American Institutions	5		
Humanities			
Literature or Philosophy, Music, Art, Drama, Literature, Philosophy	3-6		
	3		

Librarianship

The student who intends to transfer a major in Librarianship should plan his 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 he wishes to transfer.

Library Technology

The Certificate in Library Technology is awarded by College of San Mateo upon completion of 24 semester units. For complete details, consult the Library Technology brochure available at the Evening College office.

Mathematics

See information on next page.

Mathematics (Actuary)

See information on next page.

Mathematics (Mathematician)

Mathematics (Programmer)

Mathematics (Statistician)

Mathematics (Teacher)

College of San Mateo offers a wide variety of courses for the student who wishes to major in Mathematics, enabling him to transfer to a university or four-year college at the end of the sophomore year. The student should consult the catalog of the college of his 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).

Medical Sciences

Transfer Program

(Pre-Medical, Pre-Nursing, Medical Lab Technician, Physical Therapy, Dentistry, Dental Hygiene, Pre-Veterinary Medicine, Pre-Pharmacy, Optometry.)

Recommended High School Preparation: Elementary Algebra, Plane Geometry, Intermediate Algebra, Trigonometry, Chemistry, Biology, Physics, Foreign Language.

The program outlined below is typical of requirements for transfer in junior standing to a four-year college or university. The student should refer to the catalog of the college of his choice for special requirements.

	Units
English 1a, English 1b or Speech 1a	6
Social Science	
American Institutions	4-8
Psych. 1a or Electives	3-5
Humanities	
Literature, Philosophy	3
Art, Music, Drama, Literature, Philosophy	3
Foreign Language (Continuing high school)	5-10
Health Education	2
Physical Education	2

	Units
Major Requirements	20-30
May include:	
Chemistry 1a-1b, 5, 8, 9, Physics 2a-2b, 3a-3b, or Physics 4a-4b-4c, Zoology 1a-1b, Psychology 33, Anthropology, Anatomy, Bacteriology, Physiology, Sociology, Analytical Geometry and Calculus.	

Medical Illustration

See note on next page after "Microbiology."

Meteorology

See note on next page after "Microbiology."

Microbiology

Note: The student who intends to transfer a major in one of these fields should plan his 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 he wishes to transfer.

Military Science (Reserve Officers' 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 Stanford University. Students may complete the first two years of Army R.O.T.C. while enrolled at College of San Mateo and qualify for enrollment in the advanced course (third and fourth year) at degree granting universities. Completion of R.O.T.C. and a baccalaureate degree qualify students for a commission in the United States Army Reserve. Interested students may secure application for enrollment forms from their counselor, Dr. Justice, R.O.T.C. counselor, or by writing to the Department of Military Science, Stanford University, Stanford, California.

Music

The student who intends to transfer a major in Music should plan his 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 he wishes to transfer.

Natural Science

Nursery School

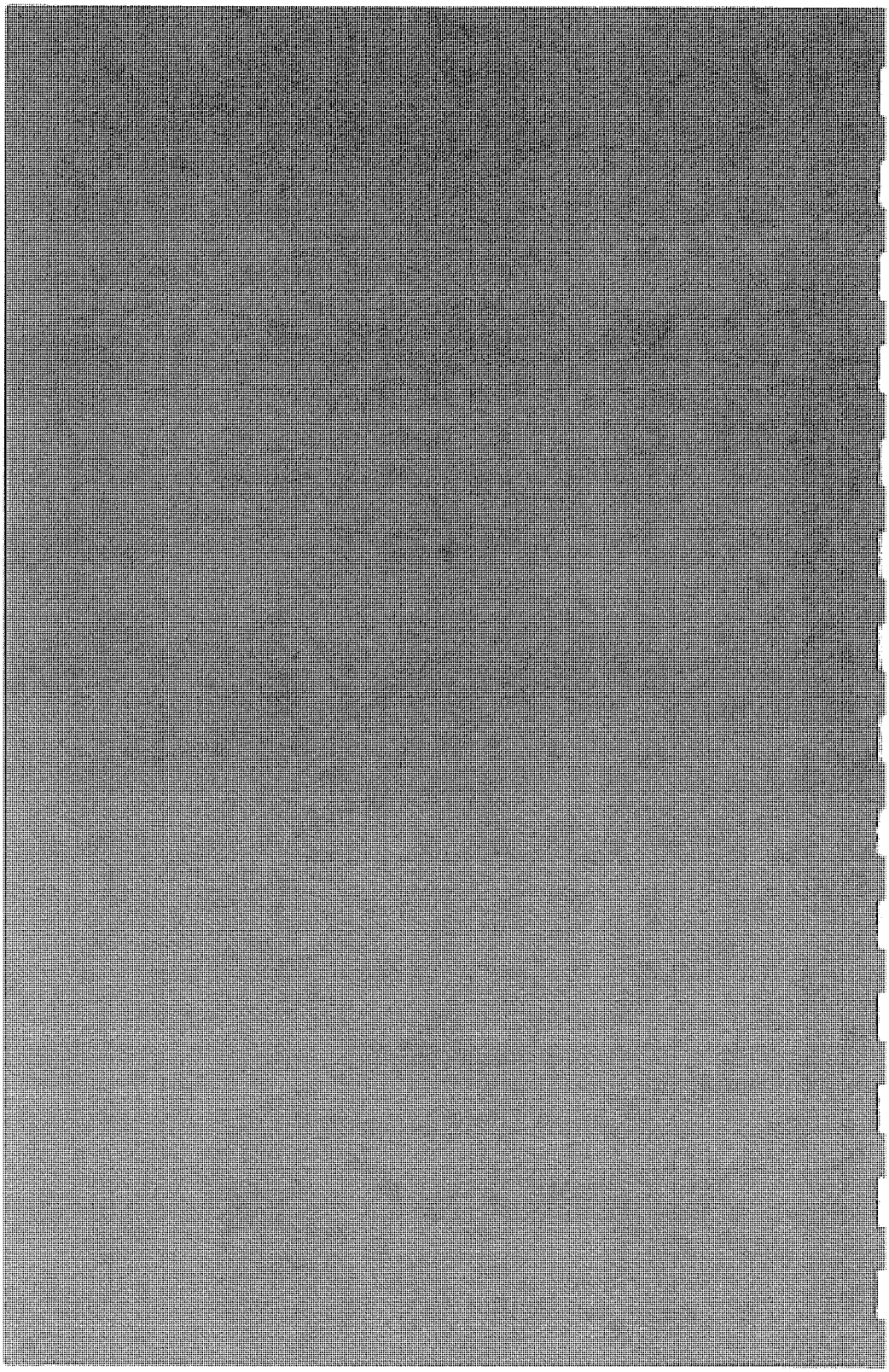
The Nursery School program is designed to prepare qualified nursery school assistants who upon completion of the curriculum, are capable of performing the duties of a teaching assistant in a variety of different preschool programs. Brochures are available through the Evening College office outlining terminal, transfer, or certificate programs. Nursery school facilities are available in San Mateo or Millbrae.

Nursing

Transfer Program

Also see "Medical Sciences."

The student who intends to transfer a major in Nursing should plan his 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 he wishes to transfer.



Nursing

Associate in Arts Degree

The College of San Mateo Associate in Arts Nursing Program provides students with opportunities for learning at the College and in local hospitals and related health agencies. Clinical practice begins early in the first semester.

The graduate of this program is prepared to care for patients in homes and hospitals, clinics and doctors' offices.

Upon graduation, the candidate receives an Associate in Arts degree and is eligible to write the California State Board Examination for Registered Nurses.

Requirements: 17-45 years of age; high school graduation with "C" average in academic subjects. Additional work attempted following high school graduation and prior to admission to the nursing program must be of the same quality; successful performance on college entrance examinations; good physical and mental health. Preference given to U. S. citizens residing within the San Mateo Junior College District.

Required High School Preparation: College preparatory curriculum, Elementary Algebra, Chemistry with laboratory experience, Biology.

Freshman Year	**Units**		**Sophomore Year**	**Units**	
	F	**S**		**F**	**S**
Nursing 1, 2	7	7	Nursing 3, 4	8	8
Anatomy 2	5		Sociology 1	3	
Psych. 1a	3		English 1a	3	
Bacterio. 2—Micro-			Speech 1a		3
biology		4	Polit. Sci. 21—Amer.		
Psych. 5		3	Inst.		3
Polit. Sci. 23—State and			*Elective		2
Local Government		2	Physical Education	½	½
Physical Education	½	½			
	15½	16½		14½	16½

*Elective must be chosen from the fields of Music, Art, Philosophy, Drama, Literature.

Nursing (Vocational)

Total Program Hours: 450 lecture, 1080 laboratory

This program is designed to prepare the student to meet the qualifications for licensing set up by the State Board of Vocational Nurse Examiners. The graduate of this program is prepared to care for patients in hospitals under the supervision of a registered nurse or licensed physician.

Requirements: 18-55 years of age, four years of high school or equivalent, good physical condition and evidence of emotional stability. Preference is given to U. S. citizens residing within San Mateo Junior College District.

First Semester (18 weeks)

	Units		
	Lec.	**Lab.**	**Total**
V.N. 51—Med. and Surg. Nursing I	12	5	17
Body Structure and Function (Anat. 51)	2		2
Physical Education (if under 25)		½	½
Totals	14	5½	19½

Second Semester (18 weeks)

	Units		
	Lec.	**Lab.**	**Total**
V.N. 52a—Med. and Surg. Nursing II	6	8	14
Bacteriology 61	2		2
Nutrition (Home Ec. 50)	1		1
Physical Education		½	½
Totals	9	8½	17½

Third Semester (12 weeks)

V.N. 52b—Med. and Surg. Nursing III	2	7	9
Grand Totals	25	21	46

Nutrition

See "Home Economics."

Occupational Therapy

See note below after "Optometry."

Optometry

Also see "Medical Sciences."

Note: The student who intends to transfer a major in one of these fields should plan his 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 he wishes to transfer.

Ornamental Horticulture

Evening College Certificate Program

The Certificate in Ornamental Horticulture is awarded by College of San Mateo upon completion of 12 required and 12 elective units in the Ornamental Horticulture Program and a minimum of two years' full-time practical experience in a horticultural occupation.

Paleontology

See note below after "Parasitology."

Parasitology

Note: The student who intends to transfer a major in one of these fields should plan his 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 he wishes to transfer.

Pharmacy

See "Medical Sciences."

Philosophy

See "Social Science."

Photography

See "Art—Photography."

Physical Education

Transfer Program

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.

Physical Education majors should take a variety of Physical Education activity classes which will be beneficial to future experiences.

The program outlined below is typical of requirements for transfer in junior standing to a four-year college or university. The student should refer to the catalog of the college of his choice for special requirements.

	Units		Units
English 1a, English 1b or Speech 1a	6	Health Education	2
Social Science		Physical Education	2
American Institutions	4-8	Phys. Ed. 40—(Co-ed)	2
Humanities		Phys. Ed. 41—(Men)	1
Psych. 1a and Electives	3-5	Phys. Ed. 20a,b,c,d—(Women)	2-8
Literature, Philosophy	3-6	Major Requirements	20-30
Art, Music, Drama, Literature, Philosophy	3	May also include: Biology 10a, Anatomy 1, Physics 10, Physiology 1, Bacteriology, Chemistry 1a, and Electives	
Foreign Language (Continuing from high school)	5-10		

Physical Sciences (Chemistry, Physics)

Transfer Program

Recommended High School Preparation: Elementary Algebra, Plane Geometry, Intermediate Algebra, Trigonometry, Chemistry, Physics, German.

The program outlined below is typical of requirements for transfer in junior standing to a four-year college or university. The student should refer to the catalog of the college of his choice for special requirements.

	Units		Units
English 1a, English 1b or Speech 1a	6	Physical Education	2
Social Sciences		Major Requirements	20-30
American Institutions	4-8	May include: Chemistry 1a-1b, 5, 12a, Math. 25, 30, 31, 32, 33, 34, Physics 4a, 4b, 4c, Electives.	
Psychology 1a or Electives	3-5		
Humanities			
Literature, Philosophy	3-6		
Art, Music, Drama, Literture, Philosophy	3		
Health Education	2		
German (Continued from high school)	5-10		

Physical Therapy

See note on next page after "Physiology."

Physics

See note on next page after "Physiology."

Also see "Physical Sciences."

Physiology

Note: The student who intends to transfer a major in one of these fields should plan his 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 he wishes to transfer.

Police Science

Associate in Arts Degree with a Major in Police Science

Freshman Year	Units F	Units S
English—by Eligibility	3	3
Police Sci. 9—Intro.	3	
Police Sci. 50—Patrol	3	
Police Sci. 52—Crim. Law		3
Police Sci. 55—Crim. Evid.		3
Police Sci. 60—Traffic	3	
Police Sci. 63—Criminal Identification		3
Health Education	2	
Elective	2	
Polit. Sci. 21—Amer. Inst.		3
Physical Education	½	½
	16½	15½

Sophomore Year	Units F	Units S
Police Sci. 51a-b—Criminal Investigation	3	3
Police Sci. 56—Records	2	
Police Sci. 59—Juv. Proc.	3	
Police Sci. 70—Police and Community Relations		2
Police Sci. 71—Organiz.	2	
Police Sci. 80—Internship		2
Electives	3	6
Polit. Sci. 23—State and Local Government	2	
Physical Education	½	½
	15½	13½

Recommended General Education Electives

Psychology 1a—General	(3)	Physics 10—Survey	(3)
Sociology 1—Introduction	(3)	Life Science 10—Introduction	(3)
Chemistry 10—Survey	(3)	Physical Science 10—Introduction	(3)
Philosophy 7—Intro. to Logic	(3)	Art 41—Photography	(3)

Police Science

Evening College Certificate Program

This program is designed for members of the police force. Upon successful completion of the course in Principles of Police Science, the student will receive a Certificate of Completion and 12 units of college credit which may be applied to the Associate in Arts degree.

Recreation

See note below after "Radio."

Also see "Physical Education."

Psychiatric Technology

See note below after "Radio."

Psychology

See note below after "Radio."

Also see "Social Science."

Public Health

See note below after "Radio."

Radio

Also see "Telecommunications."

Note: The student who intends to transfer a major in one of these fields should plan his 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 he wishes to transfer.

Social Science

Transfer Program

Social Science fields are many and varied but include such areas as Cultural Anthropology, Economics, Geography, History, International Relations, Philosophy, Political Science, Psychology, Social Welfare and Sociology.

The student should refer to the catalog of the college of his choice for special requirements.

Social Welfare

See "Social Science."

Sociology

See "Social Science."

Technology

Transfer Program

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 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 College:	Design-Arts-Industry Program, Special Engineering Technology Curriculum
California Polytechnic College: (San Luis Obispo Campus)	Technical-Arts Curriculum
San Jose State College:	Industrial-Design Program, Industrial-Technology Curriculum
Fresno State College:	Industrial Technology Curriculum
Long Beach State College:	Industrial Technology Curriculum

Technical Illustration

Associate in Arts Degree with a Major in Technical Illustration

Freshman Year	Units F	Units S
T.I. 52a-b—Technical Illustration	5	5
T.I. 53a-b—Technical Rendering	1	1
T.I. 54—Graphic Design	2	
T.I. 55—Visual Presentation		2
Tech. 74—Ind. Processes		3
Art 1a-b—History of Art	3	3
English—by Eligibility	3	
Health Education	2	
Polit. Sci. 23—State and Local Government		2
Physical Education	½	½
	16½	16½

Sophomore Year	Units F	Units S
T.I. 62a-b—Technical Illustration	5	5
T.I. 63—Reproduction Processes	2	
T.I. 64—Product Design		2
English—by Eligibility	3	
Polit. Sci. 21—American Institutions		3
Gen. Ed. Electives	3	3
Tech. 78—Technical Reporting	3	
Physical Education	½	½
	16½	13½

Those students who successfully complete the above curriculum will be eligible to receive the Certificate of Proficiency in Technical Illustration.

CAREER OPPORTUNITIES

The field of technical illustration offers careers to men and women who like to draw and are technically trained. Technical illustrations are used to show engineering, scientific and sales ideas in pictorial form. The work of technical illustrators is used by concerns that design, manufacture or sell a product.

Technology (Drafting)

Associate in Arts Degree with a Major in Drafting Technology

Recommended High School Preparation: Elementary Algebra, Plane Geometry, Mechanical Drawing.

Freshman Year	**Units**		**Sophomore Year**	**Units**	
	F	**S**		**F**	**S**
D.T. 51a-b—Applied Drafting Math.	3	3	D.T. 62a-b—Adv. Tech. Drafting	5	5
D.T. 52a-b—Basic Tech. Drafting	5	5	D.T. 63—Tech. Design	3	
Tech. 71—Science for Tech.		3	Tech. 73—Elect. for Tech.	3	
Tech. 72—Ind. Materials	2		English—by Eligibility		3
Tech. 74—Ind. Processes	3		Polit. Sci. 21—Amer. Inst.		3
English—by Eligibility		3	Gen. Ed. Electives	3	3
Health Ed. 1—General	2		Physical Education	½	½
Polit. Sci. 23—State and Local Government		2			
Physical Education	½	½			
	15½	16½		14½	14½

Suggested Electives

Aero. 1—General	(3)	Art 12a—Lettering	(2)
Aero. 4—Aerodynamics	(2)	Econ. 1a—Principles	(3)
Arch. 10—Survey	(3)	Econ 14a—Labor	(3)
Art 41a—Photography	(3)	Engin. 1a—Measurements	(3)
Art 2a—Form and Composition	(3)	D.P. 60—Data Processing	(3)

Those students who successfully complete the above curriculum will be eligible to receive the Certificate of Proficiency in Drafting Technology.

CAREER OPPORTUNITIES

Technical draftsmen are employed in manufacturing and construction industries in the area. They should, therefore, be broadly trained in order to be adaptable to all types of industry. Many draftsmen advance to positions in the upper levels of industry.

Technology (Electronics)

Associate in Arts Degree with a Major in Electronics Technology

Freshman Year	**Units**	
	F	**S**
E.T. 52—Elect. Principles	6	
E.T. 52L—Elect. Principles Lab	3	
M.T. 52—Elect. Assembly	2	
Health Education	2	
Gen. Ed. Elective	3	
E.T. 53—Active Devices		6
E.T. 53L—Active Devices Lab		3
M.T. 53—Elect. Assembly		2
English—by Eligibility		3
Gen. Ed. Elective		3
Physical Education	½	½
	16½	17½

Sophomore Year	**Units**	
	F	**S**
E.T. 62—Elect. Circuits	6	
E.T. 62L—Elect. Circuits Lab	3	
M.T. 62—Elect. Assembly	2	
English—by Eligibility	3	
Polit. Sci. 23—State and Local Government	2	
E.T. 63—Elect. Equip.		6
E.T. 63L—Elect. Equip. Lab		3
M.T. 63—Elect. Assembly		2
E.T. 65—Coml. License		3
Polit. Sci. 21—Amer. Inst.		3
Physical Education	½	½
	16½	17½

Suggested Electives

Aeronautics 10—Introduction	(3)	Business 58—Human Relations	(3)
Astronomy 10—Introduction	(3)	Economics 1a—Principles	(3)
Data Proc. 60—Introduction	(3)	Psychology 1a—General	(3)
Life Science 10—Introduction	(3)	Psychology 4—Marriage	(3)
Physical Science 10—Introduction	(3)	Psychology 33—Adjustment	(3)
Physics 10—Descr. Introduction	(3)		

The student will be required to purchase a set of prescribed personal tools at the beginning of the first semester.

Those students who successfully complete the above curriculum will be eligible to receive the Certificate of Proficiency in Electronics Technology.

CAREER OPPORTUNITIES

Electronics technicians are employed by several hundred electronics industries in the Bay Area, where the demand far exceeds the supply. Many techni-

cians have advanced to positions as production engineers, heads of departments and other positions of prestige and responsibility.

Electronics technicians find employment in industries which are involved in engineering, production, maintenance, installation and testing of all types of electronic equipment. Typical fields of employment would be in industries which are concerned with industrial control systems, computers and data processing equipment, electronic instruments, communications, microwave installations and many other areas. Salaries are high in this employment field because of the advanced techniques and responsibilities involved.

For those students who desire to continue their formal education, the California state colleges offer full, or near full transfer credit toward Bachelor degree programs in Industrial Technology and related majors. It is possible to transfer the full 64 units earned in the Electronics Technology major.

Technology (Machine Tools)

Associate in Arts Degree with a Major in Machine Tools Technology

Recommended High School Preparation: Elementary Algebra, Plane Geometry, Mechanical Drawing.

Freshman Year	**Units**		**Sophomore Year**	**Units**	
	F	**S**		**F**	**S**
M.T.T. 52—Elem. Machine Shop Theory	5		M.T.T. 62—Adv. Machine Shop Theory	3	
M.T.T. 52L—Elem. Mach. Shop Practice	4		M.T.T. 62L—Adv. Mach. Shop Practice	5	
M.T.T. 53—Inter. Machine Shop Theory		5	M.T.T. 63—Tool and Die Technology		3
M.T.T. 53L—Inter. Mach. Shop Practice		4	M.T.T. 63L—Tool and Die Technology Practice		5
Tech. 72—Materials		2	Polit. Sci. 21—Amer. Inst.		3
Tech. 74—Ind. Processes		3	Polit. Sci. 23—State and Local Government		2
Tech. 75—Welding for Technology	2		Health Education	2	
D.T. 50—Drafting	2		Gen. Ed. Electives	3	3
Electives		2	English—by Eligibility	3	
English—by Eligibility	3		Physical Education	½	½
Physical Education	½	½			
	16½	16½		16½	16½

Students will be required to purchase a personal set of tools.

Those students who successfully complete the above curriculum will be eligible to receive the Certificate of Proficiency in Machine Tools Technology.

CAREER OPPORTUNITIES

The machine technician is a vital figure in all manufacturing industry. He must work from blueprints, understand manufacturing processes and fabricate necessary parts through the use of lathes, mills, shapers, welding equipment, etc.

Technology (Manufacturing)

Plan I—Associate in Arts Degree with a Major in Manufacturing Technology

Freshman Year	**Units**	
	F	**S**
M.T. 55—Basic Manufacturing Processes	4	
M.T. 56—Inter. Manufacturing Processes		2
M.T. 54—Manufacturing Materials		2
Tech. 77—Blueprint Reading	2	
Tech. 71—Science for Technicians	3	
Tech. 73—Electronics for Technicians		2
English—by Eligibility		3
Polit. Sci. 23—State and Local Government		2
Health Education		2
Elective	3	
Gen. Ed. Electives	3	3
Physical Education	½	½
	15½	16½

Sophomore Year	**Units**	
	F	**S**
M.T. 62—Adv. Manufacturing Processes	2	
M.T. 64—Quality Control Measurements		2
M.T. 65—Silk-Screening		2
M.T. 66—Printed Circuits		2
English—by Eligibility	3	
Polit. Sci. 21—Amer. Inst.		3
Electives	10	6
Physical Education	½	½
	15½	15½

Plan II—Certificate Only (23 units)

M.T. 55, M.T. 56, M.T. 62, M.T. 64, M.T. 65, M.T. 66, Tech. 71, Tech. 73, Tech. 77.

All Manufacturing Technology courses are basically manual in nature; an extensive background of prerequisites is not required to master the skills in this program.

All Electronics majors are required to enroll in M.T. 52 during their first semester, along with other courses in the Electronics series. A student desiring to change from Electronics to Manufacturing Technology will be able to do so with relatively little loss of time.

Most courses in this program are offered to women as well as men. Electronic assembler, electro-mechanical inspector, silkscreen technician and light machine shop technician are all positions filled by women as well as men.

Technology (Welding)

Associate in Arts Degree with a Major in Welding Technology

Recommended High School Preparation: Elementary Algebra, Plane Geometry, Mechanical Drawing.

Freshman Year	**Units**	
	F	**S**
W.T. 51a—Applied Welding Math.	3	
W.T. 52a-b—Elementary Welding Theory	3	3
W.T. 52aL-52bL—Elementary Welding Theory Practice	4	4
Gen. Ed. Electives		3
Tech. 71—Science for Technicians	3	
Tech. 72—Materials		2
Tech. 74—Ind. Processes		3
Tech. 76—Machine Shop for Technicians	2	
Physical Education	½	½
	15½	15½

Sophomore Year	**Units**	
	F	**S**
W.T. 62a-62b—Adv. Welding Theory	3	3
W.T. 62aL-62bL—Adv. Welding Theory Practice	5	5
English—by Eligibility	3-5	3
Elec. 10—Introduction to Electronics	3	
Polit. Sci. 21—Amer. Inst.		3
Polit. Sci. 23—State and Local Government	2	
Health Education		2
Physical Education	½	½
	16½	16½

Students will be required to purchase a personal set of tools.

Those students who successfully complete the above curriculum will be eligible to receive the Certificate of Proficiency in Welding Technology.

CAREER OPPORTUNITIES

The field of welding offers employment in automotive, aircraft, guided missiles, nuclear energy, railroads, radio, television, appliances, department stores and food processing plants. The welding technician plays an important role in industry. He can join, separate and remove excess metals with various techniques, and he 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.

Telecommunications (Production)

Associate in Arts Degree with a Major in Telecommunications Production

Freshman Year	**Units**		**Sophomore Year**	**Units**	
	F	**S**		**F**	**S**
Tele. 51—Broadcasting Communications	3		Tele. 52b—Radio Studio Techniques	3	
Tele. 52a—Radio Studio Techniques	3		Tele. 60b—TV Studio Techniques		3
Tele. 60a—TV Studio Techniques		3	Tele. 61a—Projects in Radio-TV Production		3
Tele. 66—Radio Announcing and Microphone Techniques		3	Tele. 65a-65b—Commercial License	3	3
Speech 1a—Fundamentals of Speech and Persuasion	3		Bus. 120—Advertising	3	
English—by Eligibility	3	3	Polit. Sci. 21—Amer. Inst.	3	
Drama 10—Theater Appreciation		3	Polit. Sci. 23—State and Local Government	2	
Electives	3	3	Health Education		2
Physical Education	½	½	Gen. Ed. Electives	3	3
			Electives		3
			Physical Education	½	½
	15½	15½		17½	17½

Suggested Electives

Business 92a—Typing	(3)	Drama 14a-14b—Theory and Practice of Acting	(3-3)
Business 10—Introduction to Business	(3)	Speech 33—Voice and Articulation	(3)
Business 58—Human Relations	(3)	Philosophy 7—Intro. to Logic	(3)

Telecommunications (Technician)

Associate in Arts Degree with a Major in Telecommunications Engineering

Freshman Year	Units F	Units S
Tele. 51—Broadcasting Communications	3	
Tele. 52a—Radio Studio Techniques	3	
Tele. 60a—TV Studio Techniques		3
Tele. 65a-b—Commercial Licenses	3	3
Tele. 66—Radio Announcing & Microphone Techniques	3	
English—by Eligibility		3
Tele.101a-b—Radio & TV Technical Operations and Maintenance	3	3
Gen. Ed. Electives		3
Physical Education	½	½
	15½	15½

Sophomore Year	Units F	Units S
Tele. 52b—Radio Studio Techniques	3	
Tele. 60b—TV Studio Techniques		3
Tele. 61a-b—Projects in Radio-TV Production	3	3
Polit. Sci. 21—Amer. Institutions	3	
Polit. Sci. 23—State and Local Government		2
Health Education		2
English—by Eligibility	3	
Gen. Ed. Elective		3
Electives	3	3
Physical Education	½	½
	15½	16½

Suggested Electives

Drama 13a-13b—Stage Production	(3-3)	Psychology 1a—General Psychology	(3)
Speech 1a-1b—Fundamentals of Speech and Persuasion	(3-3)	Life Science 10—Introduction to the Life Sciences	(3)

Television

See "Telecommunications."

Theatre Arts

See "Liberal Arts."

Veterinary Medicine

See "Medical Sciences."

Vocational Gardening

Evening College Certificate Program

The Certificate in Vocational Gardening is awarded by College of San Mateo upon completion of six semester courses and two years full-time practical experience in vocational gardening.

Also see "Horticulture."

Wildlife Conservation and Management

See note below after "Zoology."

Zoology

Note: The student who intends to transfer a major in one of these fields should plan his 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 he wishes to transfer.

Announcement of Courses

Practically all courses numbered from 1 to 49 are accepted by colleges and universities as transfer courses, assuming satisfactory grades. Certain colleges will accept, as transfer credit, units earned in many courses numbered 50 and above; such courses generally, however, are intended primarily as terminal courses.

Courses numbered 10 are specifically designed for General Education; the number 49 indicates Special Projects.

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 time necessary in preparation thereof, or a longer time in laboratory or other exercises not requiring outside preparation.

Generally, in the following course descriptions, both semesters of a year's course are listed together if the first semester course is a prerequisite to the second semester course.

Evening College courses are listed in this catalog and many regular Day College courses are also offered in the Evening College.

Specific information concerning class hours will be found in the Schedule of Classes for the semester.

Aeronautics

Instructors: Mr. Nystrom, Mr. Van Vliet, Mr. Berglund, Mr. D. Blust, Mr. Walters, Mr. K. Blust, Mr. Sachen, Mr. Mendenhall, Mr. K. Hubbard, Mr. Jorgenson.

(Also see Meteorology 1, Elementary Meteorology.)

The College has Federal Aviation Agency approval for all day aviation programs.

1 PRIVATE PILOT GROUND SCHOOL (3)

Three lecture hours per week.

Open to all students except Commercial Pilot majors.

History of aviation, opportunities in the aerospace field, regulatory bodies, and the social and economic implications of the aerospace industry. Fundamentals of flight navigation, meteorology and powerplants operation. This prepares the student for the F.A.A. private pilot examination.

Aeronautics (continued)

***2a BASIC GROUND SCHOOL (Commercial Pilot) (3)**

Three lecture hours per week.

Recommended: Elementary Algebra and Plane Geometry.

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 ADVANCED GROUND SCHOOL (Commercial Pilot) (3)**

Three lecture hours per week.

Prerequisite: Aero. 2a or equivalent. Concurrent enrollment in Aero. 3.

Navigation by VHF electronic aids, Air Traffic Control procedures, aviation weather, Federal Aviation Regulations and advanced instrument interpretations.

3 FLIGHT SIMULATION (Units variable)

Hours by appointment.

Prerequisite: Day College—Enrollment in Aero. 2a. Evening College—Completion of Aero. 1 or permission of instructor.

Practice in Link Trainer to control altitude, find position and terminate flight by radio aids and instruments, use of automatic direction finding, visual omni range, and instrument landing system procedures. One unit of credit for each 51 hours of lab time.

***4 ELEMENTARY AERODYNAMICS (2)**

Two lecture hours per week.

Prerequisites: Algebra, Geometry and Elementary Physics.

Nomenclature, calculations of lift, drag, thrust, load factors, and weight and balance with application of flight theory.

5 AIRCRAFT POWERPLANTS (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.

*Day College only.

Aeronautics (continued)

6 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 FLIGHT OPERATIONAL DATA (2)

Two lecture hours per week.

Concurrent enrollment in Aero. 8, completion of Aero. 2b.

Operational data relating to flight within the conterminous United States, introduction to information available from National Flight Data Center and Federal Aviation Regulations for commercial and instrument flight.

*8 INSTRUMENT FLIGHT GROUND SCHOOL (3)

Three lecture hours per week.

Prerequisites: Aero. 2a, 2b, 3 and concurrent enrollment in Aero 7.

Federal Aviation Regulations, navigation and meteorology, requirements for instrument flight. Preparation of flight logs and related flight planning.

*10 INTRODUCTION TO AERONAUTICS (3)

Three lecture hours per week.

Implications of the aerospace industry including air transportation, manufacturing, general aviation, governmental agencies and military operations. Opportunities in the present aerospace industry and the social and economic impact of this fast-growing segment on the individual and the community.

*11, 12, 13, 14 FLIGHT TRAINING (2 units each)

Prerequisites: The requirements to start actual flight training are concurrent enrollment in Aero. 2a and Aero. 6, one year of high school level Algebra with a grade of C or better, eligibility for English A, a raw score of 57 in the Otis test, a Class I Flight Physical without waivers.

A specific introduction to flight through actual flying experience in modern, instrument and radio-equipped aircraft. These courses are designed for the completion of the four phases of flight training for the Commercial Pilot requirements. Twenty hours of dual flight instruction and 20 hours of solo flight are provided for each phase or a total of 160 minimum hours of flight time.

*Day College only.

Aeronautics (Continued)

Enrollment in Aero. 11 to 17 inclusive is conducted on an individual basis through the Aeronautics Division. It is recommended that appointments for interviews be arranged well in advance of the semester of intended enrollment to allow sufficient time for tests and examinations.

***15 INSTRUMENT FLIGHT TRAINING (1)**

Prerequisite: Commercial Pilot Certificate. (Refer to Aero. 11.)

The necessary instruction to qualify for the F.A.A. Instrument Pilot Rating. Twenty hours of dual flight instruction minimum.

***16 INSTRUCTOR FLIGHT TRAINING (1)**

Prerequisite: Aero. 14 or Commercial Pilot Certificate. (Refer to Aero. 11.)

Flight training in preparation for the Flight Instructor Rating. Twenty-five hours of dual instruction minimum.

***17 MULTI-ENGINE FLIGHT TRAINING (1)**

Prerequisite: Aero. 14 or Commercial Pilot Certificate. (Refer to Aero. 11.)

Flight training in preparation for the Multi-Engine Rating. Fifteen hours of dual instruction minimum.

25 AIRCRAFT MATERIALS (3)

Three lecture hours per week.

Aircraft materials, properties of metals, steel and its alloys, heat treating and corrosion-resistant metals, aluminum and its alloys, magnesium, corrosion, plastic materials, honey-comb structure and fiberglas. AN Hardware, heat treating, ferrous and non-ferrous metals, inspection material.

***50 GENERAL MAINTENANCE (3)**

Three one-hour lectures per week.

Prerequisites: Concurrent enrollment in Aero. 5, 6, 55, 50L and Physics 10.

Lectures covering current FAA technical requirements outlined in Advisory Circular 65-2A and subsequent revisions.

*Day College only.

Aeronautics (continued)

50L GENERAL MAINTENANCE LABORATORY (2)

Three two-hour lab periods per week.

Prerequisites: Concurrent enrollment in Aero. 5, 6, 50, 55, and Physics 10.

Basic hand tool operations used in the overhaul, maintenance and repair of aircraft. Simple machine tool operation, including drill press, band saw and grinders. Standard shop practices, safety and procedures. Aircraft standard hardware including AN, NAS and MS standards. Inspection procedures using precision measuring tools and special inspection methods. Aircraft weighing and computations of weight and balance.

*51 APPLIED AERONAUTICS MATH (3)

Three lecture hours per week.

An applied math course for the Airframe Powerplant Technology student. The aerospace application of common fractions, measuring instrument, English and metric measurement, applied algebra and formulas, percentage and its application, square root, graphs in aviation, applied geometry and mensuration, applied trigonometry, aircraft horsepower, simple mechanics and aerodynamics, logarithms, ratios and proportion. Introduction to the slide rule.

55 AERONAUTICS DRAFTING (1)

One three-hour period per week.

Mechanical drawing, shop sketching, lettering, dimensioning, blueprint reading, and aircraft hydraulic and electrical system schematics.

*60 AIRCRAFT ELECTRICAL SYSTEMS (3)

Three lecture hours per week.

Prerequisites: Aero. 5, 6, 50L, 55, Physics 10.

Direct and alternating current fundamentals pertaining to aircraft electrical systems and components. Aircraft generators and generator controls, motors and motor controls, starters and ignition systems, including installation, overhaul, maintenance and repair. Introduction to aircraft instrument systems.

*60L AIRCRAFT ELECTRICAL SYSTEMS LABORATORY (3)

Three three-hour lab periods per week.

Prerequisite: Concurrent enrollment in Aero. 60.

Practical experiments and practice in the disassembly, inspection, troubleshooting, repair, reassembly, testing and return to service of aircraft electrical systems and components.

*Day College only.

Aeronautics (continued)

61 SYSTEMS (4)

Two three-hour lab lecture periods per week.

Recommended for flight engineers.

Theory, principles of operation and factors resulting in the development of aircraft, hydraulic, pneumatic, fuel, oxygen, air conditioning, ice and rain, protection and fire protection systems as applied toward current aircraft.

§65-65L AIRCRAFT ELECTRICAL SYSTEMS (4)

Three lecture hours and three lab hours per week.

Prerequisites: Aero. 5, 6, 50L, 55; Physics 10.

Direct and alternating current fundamentals pertaining to aircraft electrical systems and components. Aircraft generators and generator controls, motors and motor controls, starters and ignition systems, including installation, overhaul, maintenance and repair. Introduction to aircraft instrument systems. Lab covers practical experiments and practice in the disassembly, inspection, trouble-shooting, repair, reassembly, testing and return to service of aircraft electrical systems and components.

***70 AIRCRAFT POWERPLANT MAINTENANCE (Reciprocating) (3)**

Three lecture hours per week.

Prerequisites: Aero. 5, 6, 50L, 55, Physics 10. Concurrent enrollment in Aero. 71 and 71L.

Study of the overhaul, maintenance and repair of aircraft propulsion units. Powerplant installation, operation procedures, testing, trouble-shooting and inspection of reciprocating engines. Basic theory of powerplants and development, ignition and valve timing, basic engine overhaul, fundamental powerplant requirements, powerplant design and construction.

***70L—AIRCRAFT POWERPLANT MAINTENANCE LAB (Reciprocating) (3)**

Three three-hour lab periods per week.

Prerequisite: Concurrent enrollment in Aero. 70, 71 and 71L.

Practice in the overhaul, maintenance and repair of aircraft propulsion units. Installation, operation, testing, trouble-shooting and inspection of reciprocating and turbine engines.

*Day College only.
§Evening College only.

Aeronautics (continued)

***71 AIRCRAFT POWERPLANT MAINTENANCE (Turbine) (2)**

Two lecture hours per week.

Prerequisites: Aero. 5, 6, 50L, 55, Physics 10, 70, 70L and 71L.

Study of the overhaul, maintenance and repair of aircraft propulsion units. Powerplant installation, operation procedures, testing, trouble-shooting and inspection of turbine engines.

***71L AIRCRAFT POWERPLANT MAINTENANCE LAB (Turbine) (2)**

Two three-hour lab periods per week.

Prerequisite: Concurrent enrollment in Aero. 70, 70L, and 71.

Practice in lubrication systems, magnaflux and fluorescent, penetrant or nondestructive, inspection methods, powerplant instrument installation.

***72 POWERPLANT INDUCTION SYSTEMS (2)**

Two lecture hours per week.

Prerequisites: Aero. 70, 70L, 71, 71L.

Theory and principles of operation of aircraft powerplants induction systems, including float and pressure type carburetors, fuel injection systems, superchargers and turbine fuel controls, fuel and induction systems, aircraft plumbing systems, carburetors, fuel injection supercharging systems.

***72L POWERPLANT INDUCTION SYSTEM LABORATORY (2)**

Two three-hour lab periods per week.

Prerequisite: Concurrent enrollment in Aero. 72.

Practice in the disassembly, inspection, repair, adjustment, reassembly, test, installation and trouble-shooting of aircraft induction systems and components.

***73 AIRCRAFT PROPELLERS (2)**

Two lecture hours per week.

Prerequisites: Aero. 72, 72L.

Theory of operation, maintenance and repair of aircraft propellers and propeller control systems, and rotors and rotor control systems. Typical installations, operation, testing and trouble-shooting of propeller and rotor systems. Theory of wood and metal propellers, hydraulic and electrical controls, governors and control systems, propeller installation and maintenance.

*Day College only.

Aeronautics (continued)

***73L AIRCRAFT PROPELLERS LABORATORY (2)**

Two three-hour lab periods per week.

Prerequisites: Concurrent enrollment in Aero. 73.

Practice in the overhaul, maintenance and repair of typical propellers, propeller controls, rotors and rotor controls. Emphasis on inspection, maintenance, trouble-shooting, installation and operation.

***74 POWERPLANT REPAIR FACILITIES (3)**

Three lecture hours per week.

Prerequisites: Aero. 72 and concurrent enrollment in Aero. 73.

Study of practices and procedures pertaining to the operation of certificated powerplant repair facilities. Emphasis on domestic operational ratings, facilities, personnel, inspection systems, required equipment and material, privileges and limitations, maintenance and performance standards, powerplant repair, technician ethics, aircraft maintenance safety, weight and balance, inspection procedures, test stand procedures, required inspections, documents, services and handling, Federal Air regulations.

***74L POWERPLANT REPAIR FACILITIES LAB (3)**

Three three-hour lab periods per week.

Prerequisite: Concurrent enrollment in Aero. 74.

Practice of procedures in the operation of a powerplant repair station. Practical application of typical repair station operations conforming to Federal Aviation Regulations.

75 AIRCRAFT TURBINE POWERPLANTS (3)

Three lecture hours per week.

Prerequisite: Concurrent enrollment in Aero. 75L.

Introduction to jet propulsion theory, basic physics applied to jet propulsion, types and models used, comparison and results of different applications, a survey of the different models used in present-day aircraft and problems in operation. Study of turbine engines, turbo jet, theory turbo prop, theory fuel control system design characteristics, lubrication system, ignition system, installation, trimming, starting and stopping, fire control.

75L AIRCRAFT TURBINE POWERPLANTS LABORATORY (1)

One three-hour lab period per week.

Prerequisite: Concurrent enrollment in Aero. 75.

Line service practices and procedures, including the investigation and inspection of different types of turbine powerplants.

*Day College only.

Aeronautics (continued)

***80 AIRCRAFT FLUID AND ENVIRONMENTAL CONTROL SYSTEMS (2)**

Two lecture hours per week.

Prerequisites: Aero. 5, 6, 50, 50L, 55, Physics 10 and concurrent enrollment in Aero. 60 and 60L.

Aircraft hydraulic, pneumatic, landing gear, environmental control, ice and rain protection, and vacuum systems.

***80L AIRCRAFT FLUID AND ENVIRONMENTAL CONTROL SYSTEMS LABORATORY (2)**

Two three-hour lab periods per week.

Prerequisite: Concurrent enrollment in Areo. 80.

Familiarization and procedures of overhaul, inspection, trouble shooting, repair, and testing of aircraft fluid, environmental control, ice and rain protection, landing gear and vacuum systems.

***81 AIRCRAFT SHEETMETAL STRUCTURES (3)**

Three lecture hours per week.

Prerequisites: Aero. 60, 60L, 80, 80L.

Shell structures, manufacturing practices and maintenance procedures. Emphasis on fabrication, repair, inspection and corrosion protection methods. Aircraft materials, including aluminum, steel, corrosion-resistant metals, magnesium, honeycomb structure and fiberglas. Sheetmetal structures, sheetmetal fabrication and repair, types of repair materials, riveting, heat treating, corrosion prevention and treatment and stressed skin.

***81L AIRCRAFT SHEETMETAL STRUCTURES LAB (3)**

Three three-hour lab periods per week.

Prerequisite: Concurrent enrollment in Aero. 81.

Theory, repair and maintenance of sheetmetal structures. Inspection and corrosion protection procedures. Riveting, heat treating and layout procedures for fabrication and repair of aircraft structures.

***82 AIRCRAFT WELDING (2)**

Two lecture hours per week.

Prerequisites: Aero. 81, 81L.

Study of oxyacetylene, conventional arc and inert gas welding as applied to aircraft structures and components. Fabrication and repair of aircraft structures by welding, brazing and hand-soldering ferrous and non-ferrous metals. Welding gas, metals and techniques, ferrous heat treating, theory of TIG welding, soldering, brazing.

*Day College only.

Aeronautics (continued)

***82L AIRCRAFT WELDING LABORATORY (2)**

Two three-hour lab periods per week.

Prerequisite: Concurrent enrollment in Aero. 82.

Practice in the fabrication and repair of aircraft structures and components by welding, brazing and soldering. Emphasis on inspection, alignment and corrosion protection of welded structures.

***83 AIRCRAFT WOOD, DOPE, FABRIC AND LAMINATES (2)**

Two lecture hours per week.

Prerequisites: Aero. 82, 82L.

Theory, repair and maintenance of wood or metal fabric covered components, laminates, including honeycomb, fibreglas and plastic structure. Cable swaging and splicing, soldering and brazing.

***83L AIRCRAFT WOOD, DOPE, FABRIC AND LAMINATES LABORATORY (2)**

Two three-hour lab periods per week.

Prerequisite: Concurrent enrollment in Aero. 83.

Practice in the repair and finishing of aircraft wood structures. Textile covering installation, doping and finishing techniques, including synthetic fabrics. Application by spray painting of aircraft finishes, markings and paint schemes.

***84 AIRFRAME REPAIR FACILITIES (3)**

Three lecture hours per week.

Prerequisites: Aero. 82 and concurrent enrollment in Aero. 83.

Study of practices and procedures pertaining to the operation of certificated airframe repair facilities. Emphasis on domestic operational ratings, facilities, personnel, inspection systems, required equipment and material, privileges and limitation, maintenance and performance standards. Technician ethics, aircraft maintenance safety, weight and balance, inspection procedures, certificate A/C, instrument and communication equipment, vacuum system maintenance, Federal Air Regulations, flight control surface and mechanisms, rigging, and assembly. Inspection forms, flares, installation magnaflux, penetrant inspection, non-destructive testing.

***84L—AIRFRAME REPAIR FACILITIES LABORATORY (3)**

Three three-hour lab periods per week.

Prerequisite: Concurrent enrollment in Aero. 84.

Practice of procedures in the operation of an aircraft repair station. Practical application of typical repair station operations conforming to Federal Aviation Regulations.

*Day College only.

Aeronautics (continued)

§91a-91b AIRCRAFT POWERPLANT MECHANICS (4-4)

Three hours lecture, three hours shop per week.

Prerequisite: Applicant must have completed the FAA time requirements (18 mos.) prior to enrollment. Original enrollment may be in either Areo. 91a or 91b, or permission of instructor.

Basic theory, maintenance, lubrication, carburetion and fuel systems, ignition systems, propellers, electrical systems, FAA regulations and trouble-shooting, preparation for the FAA written examination.

§92a-92b AIRFRAME MECHANICS (6-6)

Three hours of lecture and six hours of lab per week.

Prerequisite: Permission of the instructor or completion of the FAA time requirements (18 mos.) prior to enrollment. Original enrollment may be in either Areo. 92a or 92b.

This course includes welding, sheet metal, hydraulics, fabric and dope, controls, aircraft electrical systems and fuel system.

Prepares the student for the FAA written and practical examinations.

§97 PREVENTIVE MAINTENANCE FOR PILOTS (2)

Two hours of lecture and two hours of lab per week.

Preventive maintenance of aircraft as outlined in Part 43 of Federal Aviation Regulations. Emphasis of safe operation of general aviation aircraft including repair, servicing, lubricating and inspection through the use of accepted preventive maintenance procedures.

§98a COMMERCIAL GROUND SCHOOL (3)

Three lecture hours per week.

Prerequisites: Aero. 1 or 2a with proficiency in dead reckoning navigation and aeronautical computer, and permission of the instructor.

Instruments, radio and electronic navigational aids and currently applicable Federal Air Regulations for Commercial Rating.

§98b INSTRUMENT GROUND SCHOOL (3)

Three lecture hours per week.

Prerequisite: Aero. 98a, or permission of the instructor.

Piloting practices, problems, computations and solutions, and the theory and methods employed in conduct of flights using electronic navigation, for FAA Instrument Rating.

§Evening College only.

Anatomy

Instructors: Mr. Karl, Mr. Ferguson.

***1 ANATOMY (4)**

Three lecture hours and one three-hour lab period per week.

Prerequisite: Satisfactory completion of a high school or college level General Biology course.

Designed to familiarize the student with the structure of the human body. Laboratory study and dissection of human and higher mammals.

Primarily intended for students of Nursing, Physiotherapy, Hygiene and Physical Education. Elective for pre-Dental, pre-Medical and pre-Veterinarian students.

***2 ANATOMY AND PHYSIOLOGY (5)**

Three lecture hours and two three-hour lab periods per week.

(Required for A.A.R.N. Program.)

Previous course in Biological Science recommended.

A detailed survey of basic human anatomy and of the principles of physiology. Emphasis is placed upon those areas which have a direct correlation with the practice of nursing.

51 BODY STRUCTURE AND FUNCTION (2)

Two hours of lecture per week.

Covers the normal body structure and function of the following systems: skeletal, muscular, circulatory, digestive, endocrine, respiratory and nervous. The anatomy of the special sense organs, the eye and ear, is also covered.

Designed to meet the requirements of the Vocational Nurse Program and for students majoring in Medical Assisting. This course is integrated with the course in Medical and Surgical Nursing.

Anthropology

Instructors: Mr. Curren, Mrs. Lee.

1 PHYSICAL ANTHROPOLOGY (3)

Three hours of lecture per week.

The relationship of Homo sapiens to lower animals, the evidence of man's evolution, genetics, human racial stocks and man's early prehistory.

2 CULTURAL ANTHROPOLOGY (3)

Three hours of lecture per week.

Study of culture as the man-made environment of particular societies. Introduction to the anthropological point of view. Cross-cultural comparisons of child-training, personality, kinship and family, economy, politics, religion and relationships between these in specific societies and sub-cultures, including contemporary ethnic groups in the United States.

*Day College only.

Anthropology (continued)

3 ARCHAEOLOGY (3)

Three hours of lecture per week.

Man's evolution during the period before written records. Prehistory bridges the gap between the natural history of man and the period of the first written records.

Architecture

Instructors: Mr. Smith, Mr. Whifler, Mr. Zimmerman.

***10 SURVEY OF CONTEMPORARY ARTICHECTURE (3)**

Three hours lecture 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.

(Satisfies CSM General Education requirements in part.)

***11 GRAPHICS (1)**

Three lab hours per week.

Prerequisite: Concurrent enrollment in an Architecture course, or consent of instructor.

Representational freehand drawing for Architecture majors, covering perspective, composition and specific techniques in black and white media.

(May be repeated for a total of two semester units.)

***12 GRAPHICS (1)**

Three lab hours per week.

Prerequisite: Concurrent enrollment in an Architecture course, or consent of instructor.

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.)

***14 ESSENTIALS OF DRAFTING (3)**

Two hours lecture, four hours lab 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.

(This course is also taught as Art 14.)

*Day College only.

Architecture (continued)

***16-17 ELEMENTARY STATICS AND STRENGTH OF MATERIALS (3-3)**
Taught by Engineering staff. For content and prerequisites, refer to Engin. 16-17.

***21 ARCHITECTURAL DESIGN (4)**
Three hours lecture and three hours lab per week.
Prerequisite: Arch. 14 or equivalent and concurrent enrollment in Arch. 11. Arch. 14 may be taken concurrently with 21.
Introduction to the broad 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, materials and systems, and program analysis and development; environmental analysis.
A basic preparation course for the student to enable him to develop successfully in the design courses 22, 23, 24.

***22 ARCHITECTURAL DESIGN AND MATERIALS (4)**
Three hours lecture and three hours lab per week.
Prerequisites: Arch. 21, concurrent enrollment in Arch. 16.
Principles of architectural design, including analysis of economic, functional, esthetic and environmental aspects. Introduction to schematic presentation, preliminary and working drawings, with applications of the Uniform Building Code.

***23 ARCHITECTURAL DESIGN AND PRACTICE (4)**
Three hours lecture and three hours lab per week.
Prerequisites: Arch. 22 with a grade of C or better, and concurrent enrollment in Engin. 1a or Engin. 90a, and Arch. 17.
Architectural design, involving advanced projects. Working drawings, involving an introduction to structural analysis.

***24 ARCHITECTURAL DESIGN AND PRACTICE (4)**
Three hours lecture and three hours lab per week.
Prerequisites: Arch. 23 and Arch. 17.
Architectural design, involving advanced projects. Introduction to electrical, mechanical and plumbing requirements. Emphasis on structural details, analysis and calculations. Presentation of an integrated solution for critique.

***49 DESIGN PROBLEM (1 or 2)**
Instructional hours by arrangement; 60 to 120 hours of student work.
Prerequisite: Permission of instructor.
An advanced course of individualized study involving broader aspects of architectural design and practice.

*Day College only.

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Art

Instructors: Mr. Daniels, Chairman; Mr. Steed, Mr. Galindo, Mr. Appleton, Mr. Prochaska, Mr. Coyne, Mr. Rascon, Mr. Wakeham, Mr. Lorenzato, Mrs. Rempel, Mr. Allende.

For Art majors, see program outlined in "Suggested Curricula." While intended primarily for regular students taking the semi-professional or pre-major curriculum in Art, the courses marked with an (x) are especially recommended for any member of the community interested in adult education and effective use of leisure time.

1a (x) 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 (x) HISTORY OF ART (3)

Three lecture hours per week.

Prerequisite: Art 1a or permission of instructor.

A survey of Gothic, Rennaissance and Baroque art. Emphasis is placed on the development of printing from the 14th to the 18th Century.

***1c (x) HISTORY OF ART (3)**

Three lecture hours per week.

Prerequisites: Art 1a and 1b or permission of instructor.

A survey of Eureopean and American art from mid-18th Century until the present. Emphasis is placed on the development of modern painting as a reaction against earlier traditions.

2a-2b (x) FORM AND COMPOSITION (3-3)

Three lecture hours per week.

Prerequisite: 2a—None; 2b—Art 2a.

2a — Study of three-dimensional form and space relationship, with charcoal 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.

*Day College only.

Art (continued)

***3a COLOR TECHNOLOGY (3)**

Three lecture hours per week.

Introduced 16 years ago to meet the ever-increasing demand for a course presenting color as communication. Knowledge of the four elements of color is gained with problems requiring one or more of the many media/expressions of paint. A specially prepared set of spectrum-range acrylic paints is the medium. The Ostwald system of color harmony/notation is studied and applied.

***3b COLOR TECHNOLOGY, ADVANCED (3)**

Three lecture hours per week.

Prerequisite: Art 3a.

Paint/color is integrated with light/color with both two-dimensional and three-dimensional projects. Opaque and transparent paints, projection, optical effects, sound/light and polarization are some of the many media/expressions that will be used by student. Emphasis is placed on individual creativity and ability to effect the desired effect/solution.

***4 PERSPECTIVE (2)**

Two lecture hours per week.

Through a series of problems, the student gains the basic fundamentals of perspective necessary for illustrating landscapes, still-life objects and groups of buildings.

Not offered as a substitute for Mechanical or Architectural Drafting.

5a-5b DESIGN (3-3)

Prerequisite: 5a—None; 5b—Art 5a.

5a—Development of problems dealing with two-dimensional design, such as repeat pattern, collage, mosaic, texture and line studies. Exploration of media and techniques will be encouraged.

5b—Volume, line and space studies using paper, wire, wood, string and plaster of Paris construction. Mobiles, stabiles and similar objects will be created.

6a (x) PAINTING TWO-DIMENSIONAL (4)

Two sessions per week of three hours each.

Prerequisites: Art 2a-2b or submission of portfolio.

Awareness of the problem presented by the two-dimensional canvas and the many techniques available to effect a solution is acquired by increasing physical and psychological control of the oil/polymer medium. Painting is stressed as chromatic communication; thus, ability to mix colors and modify hues, to progress and recess form, to distribute lights and darks, and to shift intensities is programmed with every study.

*Day College only.

Art (continued)

6b (x) PAINTING: THREE-DIMENSIONAL (4)

Two sessions per week of three hours each.

Prerequisite: Art 6a or submission of portfolio.

Non-paint media is introduced as companions to oil/polymer. Painting becomes three-dimensional and architectonic. The spatial facade of the traditional canvas is re-formed to the space projection of contemporary painting. Communication becomes sculptural with construction/assembly. The use of subtractive and additive color to configurate kinecasting is produced by rear/front projection, optional material, polarization and sound/light montage.

May be repeated for credit.

7a-7b (x) WATERCOLOR (3-3)

Four hours per week with additional assignments.

Prerequisites: 7a—Art 2a-2b, 3a and 4.

Through exercises and renderings, the student is made familiar with the various styles of watercolor, its effects and possibilities. Materials, color, perspective, light and shade will be studied.

***8 PUBLIC SCHOOL ART (3)**

Two lecture hours and four lab hours per week

To give the Elementary Education major a background in design, color and the use of materials in executing problems such as the following: papier-mache, paper sculpture, stenciling, vegetable printing, collage and crayon scratch board. Emphasis is on the creative and imaginative approach.

10 (x) INTRODUCTION TO THE ARTS (3)

Three lecture hours per week.

An introduction to painting, music and theatre. The basic elements, problems of organization and contemporary experiments with media and forms.

This is a General Education course.

***12a LETTERING (2)**

Two lecture hours per week.

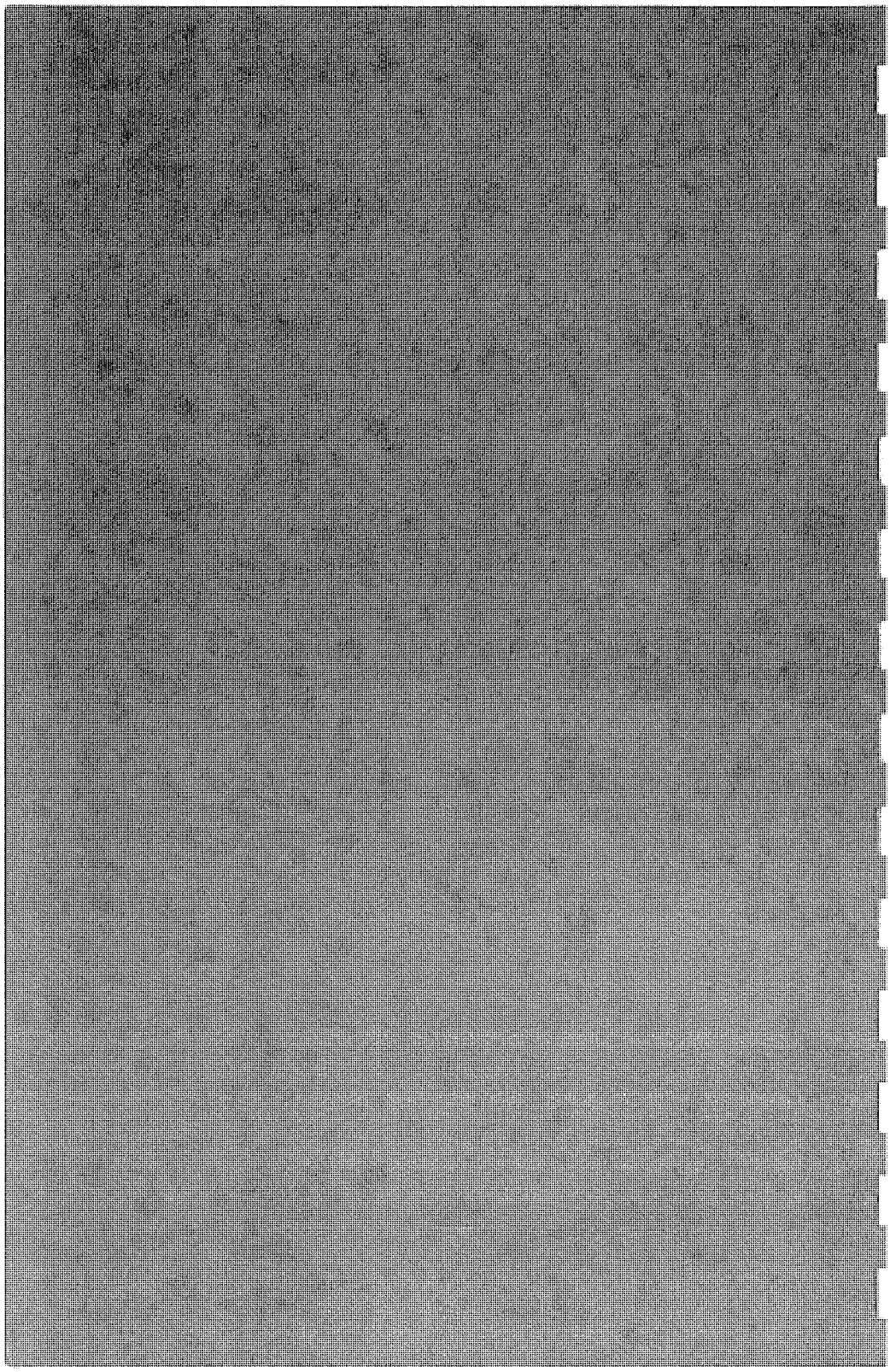
Development of proficiency in the freehand and mechanical lettering of the three main alphabetical types — Gothic, Roman and Text — with variations of these types. Emphasis is placed upon letter proportions, character of style and proper spacing of letters and words.

***12c BRUSH LETTERING (1)**

Three lab hours per week with lecture included.

Practice in the basic strokes of the various types of free brush lettering, such as Sans Serif, Roman and Script through the production of showcard lettering.

*Day College only.



Art (continued)

13a-13b PENCIL DRAWING AND PEN DRAWING (3-3)

Three lecture hours per week.

Prerequisites: 13a—Art 4; 13b—Art 13a.

13a—Discussion of the materials and techniques of pencil work, the depiction of various forms: round, cylindrical, planes, textures and various complex forms, draperies.

13b—Materials and techniques in common use. Traditional and contemporary pen expression. Rendering of every-day objects and scenes. Methods of depicting shade and shadows, textures. Acquiring skill in value transition.

***14 ESSENTIALS OF DRAFTING (3)**

Two hours lecture, four hours lab 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.

This course is identical to Architecture 14.

***15 LIFE DRAWING (2)**

One hour of Anatomy lecture. Three hours per week of drawing.

Admission to class dependent upon space available and consent of instructor.

Prerequisites: Art 2a-2b.

The human form in art; study from living professional models with a view of acquiring a thorough knowledge of the human figure as expressed in art. Drawing in pencil or charcoal is recommended for the beginning student.

May be repeated for credit.

17a-17b-17c-17d ETCHING (2-2-2-2)

One lecture and three lab hours per week.

Prerequisites: 17a—Art 2a-2b, 13a-13b; 17b—Art 17a; 17c—Art 17b; 17d—Art 17c.

The practice of printmaking as a fine art, with emphasis upon the history, techniques and criteria of the Intaglio Etching Process.

*Day College only.

Art (continued)

19 (x) ART/COMMUNICATION: 20TH CENTURY (3)

Three lectures per week with assigned readings and two reports concerning media/expressions of today.

Formulated 16 years ago, the course stresses that art is communication as communication is art. Art/communication is the many media and expressions that determine, effect and perpetuate the structures of man's basic needs. These needs are coexistent and infinite; therefore, the media/expression of these constants are of equal importance. No one art/communication can be, culturally, of greater prominence than another. Various media/expressions, as: painting, social expression, architecture, photography, ceramics, to list a few, are discussed, analyzed and placed in proper communal perspective.

20a-20b (x) CERAMICS (3-3)

Six hours theory and lab.

Prerequisite: 20a—None; 20b—20a.

Elementary clay construction including pinch, coil, and slab; methods of ornamentation, glazing, firing, introduction to potters wheel.

There are additional fees for firing and glazing.

21a-21b GLASS BLOWING (3-3)

Two lecture hours and four lab hours per week.

Prerequisite: Ceramics 20a.

An introduction and study of the methods of glass blowing and design. The theory and practices of solving both preliminary and finished stages of this art form. The first semester emphasizes production research; the second semester emphasizes three-dimensional design.

There are additional fees for firing and glazing.

22a-22b SCULPTURE (3-3)

Six hours theory and lab per week.

Prerequisites: 22a—Art 15; 22b—Art 22a.

The relationship of design applied to three-dimensional form by study of the human figure in clay.

This course is required of all Art majors and minors.

***25 (x) CRAFTS (3)**

Six hours per week.

An introduction of fundamental design principles as they apply to a variety of crafts. Basic projects in textile, printing, ceramics and three-dimensional design.

*Day College only.

Art (continued)

***27a-27b (x) STAGE DESIGN (3-3)**

Three hours per week.

Prerequisite: 27a—None; 27b—Art 27a.

27a—Experience in executing designs for theatrical settings. Analysis of plays and scenic problems. Emphasis is upon solving the problems involved in preparing a design for presentation. No experience in drawing required.

27b—Special problems in scene design.

This course is also taught as Drama 27a-b.

***40 VISUAL INTERPRETATION (3)**

Three lecture hours, one seminar hour per week and assignments.

Prerequisite: Art 41a or concurrent registration in Art 41a.

An investigation of objects in each person's everyday world and of the fields of art and photography using the five senses. Employing photographs, slides, cinema and three-dimensional forms, the student is asked to interpret the value of these works. Course involves projects utilizing the box camera, with a portion of the semester for a historical sketch of cinema.

41a-41b PHOTOGRAPHY (ELEMENTARY & ADVANCED) (3-3)

Two lecture hours and four lab hours per week.

Prerequisite: 41a—Art 2a; 41b—Art 41a or permission of instructor.

Use of the exposure meter, filters, print papers, formulas and processing, special lenses and shutters. Problems of artificial and natural lighting, of enlarging or of spotting prints, and of print finishing and mounting. Individual projects are chosen from the fields of scenic and nature photography, as well as portraiture.

It is recommended that Art 40 be taken in conjunction with Art 41a.

***41c PHOTOGRAPHY WORKSHOP (3)**

Two lecture hours and four lab hours per week.

Prerequisite: Art 41a, permission of the instructor or Beginning Photography at the college level.

Emphasis on the broader aspects of technical perfection, visual awareness and creative presentation. Areas covered include experimental, documentary and new material uses. Various exhibition methods, contemporary and creative forms of photographic presentations are explored. The students are unified into a single working group presenting and exploring each other's creative instinct.

*Day College only.

Art (continued)

***42a-42b ADVERTISING PHOTOGRAPHY (3-3)**

Two lecture hours and four lab hours per week.

Prerequisite: Art 41a, permission of the instructor or Beginning Photography at the college level.

The history of advertising including presentation of examples, the lithographic process of printing, various letter types and styles, and layouts and presentations. Current methods of advertising are continuously investigated. The student may employ color if he is concurrently enrolled in Art 43a or b.

43a-43b COLOR PHOTOGRAPHY (3-3)

Two lecture hours and four lab hours per week.

Prerequisite: Art 3a, permission of the instructor or Beginning Photography at the college level.

Color exposure, transparency, negative development and CP printing. Use of contemporary processing equipment and methods. Precise printing techniques and the investigation of color changes will be explored. Additive and subtractive color rendering for creative use are employed. Designed to allow the student the greatest amount of creative freedom while being involved in the learning situation.

***49 SPECIAL PROJECTS (1 or 2)**

Hours by arrangement.

Prerequisite: Permission of the instructor.

Independent study, selected on the basis of individual need and interest. The student will work under the direct supervision of the instructor.

***52 (x) FIGURE DRAWING (2)**

One lecture hour and three lab hours per week with group and individual instruction.

Graduated problems using the clothed figure, and dealing with the drawing of the structure and proportions of the figure at rest and in motion. Through contour line, gesture and volume studies, and using different media as wash, crayons, pencil, the student acquires an ability to render a sketch of complete spontaneity and expression.

May be repeated for credit.

***53 FASHION ILLUSTRATION (2)**

One lecture hour per week, three lab hours per week.

Presenting principles of fashion illustration, design and layout in various media. Emphasis on style interpretation of accessories and clothes from the live model for magazine and newspaper reproduction.

*Day College only.

Art (continued)

***54 ADVERTISING ART (2)**

Two lecture hours per week.

Prerequisites: A background in drawing, painting, lettering, design and color, and completion of at least six of the Art prerequisites listed: Art 2a, Art 3a, Art 5a, Art 6a, Art 12a, Art 13a, Art 4, Art 7.

Layouts, comprehensives and finished art work of items of the following type: newspaper advertising, spot illustrations, mailers and posters. Color separation is included in at least one of the problems. The major methods of reproduction in printing are explained. The course is presented with an emphasis upon the creative approach.

§62 SILKSCREEN AND SERIGRAPHY (2)

Three hours per week.

Through progressive problems the student learns the technique and effect of the various types of silkscreen stencils: paper, glue, tusche, varnish and film. Particularly recommended for elementary school teachers.

May be repeated for credit.

***63a-63b FASHION DESIGN (2-2)**

One hour lecture and two hours lab per week.

Prerequisite: 63a—None; 63b—Art 63a.

The current fashion picture: form, color, fabric, draping, drafting, sketching, historical research, abstraction and stylizations as they affect the designing of clothing. Emphasis is placed on original designing by the students. During the second semester, the emphasis is on historical research and national costumes as they affect designers, the development of a designer's line and the preparation of finished designs.

68a (x) INTERIOR DESIGN (3)

Three lecture hours per week.

Analysis of the modern home—site, design, furnishing and decoration.

68b (x) INTERIOR DESIGN (3)

Three lecture hours per week.

History of furniture, with examination of "period styles," their influence upon modern interior decoration and their values in solving its problems.

*Day College only.
§Evening College only.

Art (continued)

***70 PORTFOLIO (1)**

Three lab hours per week.

Prerequisite: Sophomore standing.

Purpose is to help the art student prepare his art and course work for his 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 will be given in portfolio organization, selection of work, matting, labeling and defining the objective of the art work.

***72a-72b (x) PLANT FORM AND DESIGN (2)**

One two-hour lecture per week with group and individual instruction.

Demonstrations and lectures illustrating harmonious and unique combinations of plant forms for home decorations. Arrangements designed for general and specific occasions using plant material offered by the different seasons throughout the year.

***80 LINE, DESIGN, FORM, COLOR (Cosmetology Students) (2)**

Two lecture hours per week.

Basic elements of design and color as they affect the art of cosmetology. The use of linear design, of shapes, forms and mass, sketching and brush techniques, value scales and color.

Astronomy

Instructors: Mr. C. Anderson, Mr. Chriss.

***1a-1b GENERAL ASTRONOMY (3-3)**

Three lecture hours and occasional lab hours.

Prerequisites: Astro. 1a—Trigonometry. High school Physics desirable. Astro. 1b—Astro. 1a, or consent of instructor.

A survey of current concepts of the universe with an emphasis on the physical principles involved. Designed primarily for Science majors. Astro. 1a—The solar system: sun, earth, planets, satellites, comets, discussion of the tools and techniques used in gathering information. Astro. 1b—Astrophysics, the stars, Milky Way, the galaxies, cosmogony.

10 INTRODUCTION TO ASTRONOMY (3)

Three lecture hours per week.

Prerequisites: High school Algebra and Geometry or permission of the instructor.

A survey of Astronomy satisfying the science requirements in state colleges and universities. The course includes the motions of the earth, planets, comets, meteors, the sun, double stars, motions of the stars, variable stars, the Milky Way system and galaxies, together with an introduction to the methods employed by astronomers in gathering information.

*Day College only.

Astronomy (continued)

***49 SPECIAL PROBLEMS (1-2)**

Hours to be arranged. Admission only by consent of the instructor.

Prerequisites: Astro. 1a, 1b or 10.

Individual study by the student on a topic chosen by him and approved by the instructor. Course will give student a foundation in the methods of scientific research in one of the fields of astronomy. Topic is developed into a paper.

***50 PLANETARIUM DEMONSTRATIONS (1)**

One lecture hour per week.

Planetarium lecture-demonstrations showing the motions of the sun, moon, planets and stars; mechanics of the solar system, artificial satellites and space travel; introduction to the structure of the galaxies, Milky Way system and of the stars. Special shows of current interest.

51 APPRECIATION OF ASTRONOMY (3)

Three lecture hours per week.

A non-mathematical, general education survey of Astronomy including Planetarium demonstrations, constellation study, introduction to the solar system, the stellar system and other selected topics.

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 is included.

Of special value to those seeking teaching as a career, and for all prospective candidates in the fields of public relations, music and communications.

Bacteriology

Instructor: Miss Crouch.

***1 GENERAL BACTERIOLOGY (5)**

Three lecture hours and six lab hours per week.

Prerequisite: One semester of Chemistry in college; not open to first semester freshmen. Recommended: One semester of a college course in the Biological Sciences.

An introduction to the morphology and physiology of micro-organisms, especially the bacteria, their control by chemical and physical means, and their role in the disease process. Laboratory techniques in culture and identification.

Recommended for Agriculture, Biochemistry, Home Economics, Nursing, Sanitary Engineering, Physical Education and other Life Science majors.

*Day College only.

Bacteriology (continued)

***2 MICROBIOLOGY (4)**

Two lecture hours and six lab hours per week.

Required for A.A. Degree Nursing Program.

Basic concepts of the structure and function of micro-organisms, especially as related to the host-parasite relationship. Control and prevention of the infectious diseases of man.

10 MICROBES AND MAN (3)

Three lecture hours per week.

Basic principles regarding the structure and function of cells as illustrated by micro-organisms. Importance of micro-organisms in the economics of nature. Beneficial uses of micro-organisms. The host-parasite relationship and the control of infectious diseases.

***51 DENTAL ASSISTING BACTERIOLOGY (2)**

One lecture and three hours of lab per week.

Prerequisite: Enrollment in the Dental Assisting program.

The basic physiology of bacteria with emphasis on aseptic technique, sterilization, infection and bacterial applications to dental and oral hygiene.

***61 VOCATIONAL NURSING BACTERIOLOGY (2)**

Two lecture hours per week.

Prerequisite: Enrollment in the Licensed Vocational Nursing Program.
Recommended for Medical Assistants with consent of instructor.

Introduction to microbiology with emphasis upon detection, morphology, physiology, transmission and control of pathogenic forms.

Biology

Instructors: Mr. Ferguson, chairman; Mr. Kolber, Mr. Monroe, Mr. Curren, Mr. Karl, Mr. Williams, Mr. Joslin, Mr. Bartges, Mr. H. S. Williamson, Mrs. Baker, Mr. Bucher, Mr. Fark, Mr. Grossenbacher.

***2 GENETICS (3)**

Three class hours per week.

Prerequisite: One course in the Bioligical Sciences or consent of insructor.

Introduction to the principles of heredity in plants and animals with specific reference to human inheritance and biochemical genetics. The importance of heredity in its evolutionary concepts is included.

*Day College only.

Biology (continued)

10a-10b GENERAL BIOLOGY (4-4)

Three lecture hours and one three-hour lab period per week, with field trips during the regular period.

Prerequisite: None; either part may be completed first.

10a—Broad principles of structure, function, evolution and inter-dependence between plants and animals, with emphasis on lower animal groups. Special attention to the study of structure and life histories of local forms.

10b—Particular emphasis on vertebrates, their structure and function, ecology and evolution.

§12 BIOLOGY OF REPRODUCTION (3)

Three lecture hours per week.

Aspects of the nature of sexuality. Life cycles of sex types will be related to genetic potentials of plant and animal types. The hormonal and nervous control will be utilized to characterize reproduction.

§15 NATURAL HISTORY OF DISEASES (3)

Three hours per week.

A course dealing with diseases of the human organism and the scientists who have been prominent in their control. Viruses, bacteria, protozoa and fungi will be covered.

***20 MARINE BIOLOGY (3)**

Two lecture hours and one three-hour lab period per week.

Prerequisite: Biology 10a or 10b, Zoology 1a or Botany 1 with a grade of C or better.

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.

***25 DEVELOPMENT OF BIOLOGICAL CONCEPTS (3)**

Three 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, scientific thought through Greek and Mediterranean cultures, scientific decay during the Dark Ages, rebirth of science during the Renaissance, historical foundations of modern biology and modern biological themes.

*Day College only.
§Evening College only.

Biology (continued)

***40 NATURE STUDY (3)**

One hour of lecture and two three-hour lab periods per week, with frequent field trips.

Prerequisite: Sophomore standing (24 units) with one course in the Biological Sciences or consent of the instructor.

Lecture, laboratory and field study of selected common organisms, both plant and animal; natural history and distribution of Bay Area organisms.

***48 TOPICS IN BIOLOGY (1-3)**

Three lecture hours per week.

The topic of this course will be different each semester. It is intended to be a course covering a subject of relevance, but not intended to be a permanent offering of the Division.

***49 SPECIAL PROBLEMS (1 or 2)**

Hours by arrangement.

Prerequisites: Open only to students who have completed, or are currently enrolled in one of the following: Zoology 1a-1b, Biology 10a-10b, or Botany 1. Permission of the advising instructor is required.

A problem is chosen by the student in order to lay a foundation for future research in one of the fields of Biological Science. The problem is developed into a regular scientific report.

Botany

Insructors: Mr. Dehnel, Mr. Grossenbacher.

***1 GENERAL BOTANY (5)**

Three lecture hours and six hours of lab per week.

Prerequisite: Satisfactory completion of a high school or college level General Biology course; completion of a course in Chemistry highly recommended.

Principles of biology as illustrated by plants with emphasis on structure, physiology and reproduction in green plants.

10 PLANTS AND MAN (3)

Three lecture hours per week.

An introduction to modern biological science, the scientist and scientific research in modern society. Basic principles of the living state as exemplified by the plants inhabiting our earth, interrelationships of both structure and function of plants, biotic interrelationship, genetics and evolution. Plants and the development of human civilizations will also be treated, as well as the role plants play in the population problems of the world.

*Day College only.

Botany (continued)

***65 BOTANY FOR HORTICULTURISTS (3)**

Three lecture hours per week.

Theoretical treatment of horticultural botany. Aspects covered are photosynthesis, water and mineral nutrition, hormones (auxins), growth and development, and reproduction.

Business and Data Processing

Instructors: Mr. George, Chairman; Miss Cornahrens, Mr. Justice, Mr. Horn, Mr. Smart, Mr. Woods, Mrs. Hopkins, Mr. Berry, Mrs. Davidson, Mr. Clinton, Mr. Billeter, Miss Stetson, Mr. Spencer, Miss Mulhall, Mr. Beale, Mr. Montgomery, Mr. Michael, Mrs. Wittwer, Mr. Janssen, Miss Goldman, Mr. Free, Mr. Rategan, Mrs. Calahan, Mr. Cron, Mrs. Burton.

Some of these courses are transferable to the State colleges; however, they are principally designed to prepare the student for employment.

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

Mathematics—A percentile rating of 35 or over on 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.

Bus. 10—Introduction to Business.

10 INTRODUCTION TO BUSINESS (3)

(Required of all students majoring in Terminal Business Programs.)

Satisfies requirement for Mgmt. 99 for Management Certificate Program in Evening College.

Three 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.

35 PERSONAL AND FAMILY FINANCE (3)

Three 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.

*Day College only.

Business and Data Processing (continued)

***49 SPECIAL STUDY PROJECTS (1 or 2)**

Hours by arrangement.

Prerequisites: Sophomore standing and permission of the Chairman of the Business Division.

Designed to provide an opportunity for a student to extend his knowledge and understanding of a selected topic or problem beyond the scope of other courses. The nature and topic of assignment will be prescribed by the instructor.

50 BUSINESS ARITHMETIC (2)

Two hours per week.

Prerequisite: For students with a percentile rating below 35 on the quantitative part of SCAT entrance examination. (See Business Division requirement for business mathematics.) There will be a mathematics inventory test for Evening College students given at first meeting of class to determine placement for either Bus. 50 or 51.

Fundamental arithmetic operations including fractions, decimals and percentages used in ordinary problems of business.

51 BUSINESS MATHEMATICS (3)

Three hours per week.

Prerequisite: A percentile rating of 35 or over on the quantitative part of the SCAT entrance examination or completion of Bus. 50 with a grade of C or better. Placement in Bus. 50 or 51 is on the basis of score on inventory test given to Evening College students at the first class meeting.

Finding required quantity by use of fractional equivalents, aliquot parts, equations and formulas, ratio and proportion, formulas in percentage, simple interest, bank discount, present value, periodic payments and depreciation.

§52 LAW FOR THE LAYMAN (3)

Three class hours per week.

A 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, the Corporate Securities Act, the Workmen's Compensation Act and many other principles of general law.

***56 BUSINESS CORRESPONDENCE (3)**

Three hours per week.

Prerequisite: Bus. 92a—Typing, or equivalent.

Business letter writing taught by the workshop method. Students form their own companies and carry on the correspondence necessary to complete the business transactions.

*Day College only.

Business and Data Processing (continued)

***57 MEDICAL TERMINOLOGY, CORRESPONDENCE AND REPORTS (3)**

Three hours per week.

Prerequisite: One semester of college English or eligibility for English A.

Development of a medical vocabulary through the study of the principles of word construction and word analysis with emphasis on spelling and pronunciation. Medical abbreviations and symbols are included. Familiarization with records, reports and correspondence used in the medical profession.

58 HUMAN RELATIONS (3)

Three hours per week.

The application of psychological principles to problems of self-management and personal growth essential for successful living, including interpersonal relationships on the job.

***59 INTRODUCTION TO MEDICAL OFFICE TRAINING (3)**

Three hours per week.

Familiarization with 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. Introduction to medical records, filing, billing, insurance, bookkeeping procedures and clinical duties commonly performed by a medical assistant.

65 SMALL BUSINESS MANAGEMENT (3)

Prerequisite: Bus. 10 or permission of the instructor.

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 type of operation, legal form, site location, financing, handling of personnel and overall management procedures.

66 GENERAL ACCOUNTING (4)

Five hours per week.

Recommended: Completion of or concurrent enrollment in Bus. 50 or 51.

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.

*Day College only.
§Evening College only.

Business and Data Processing (continued)

§69 INCOME TAX ACCOUNTING (3)

Three hours per week.

Prerequisites: Bus. 66, Bus. 1a, or permission of the instructor.

A study of the procedures for computing the income tax liability of individuals and business in accordance with the latest income tax law and regulations. Practice in solving typical problems and in preparation of tax returns.

70a PRINCIPLES OF TRANSPORTATION (3)

Three hours per week.

Transportation in our economy, the transportation system and railroad development, development and regulation of transportation, theory of rate-making and government controls, selected carrier problems and transportation policies.

70b TRAFFIC MANAGEMENT AND PHYSICAL DISTRIBUTION (3)

Three hours per week.

Prerequisite: Bus. 70a or concurrent enrollment in 70a.

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 AIR PASSENGER AND CARGO TRANSPORTATION (3)

Three hours per week.

Passenger originations and destinations in the United States; growth and development of air passenger traffic; Federal control of air lines; airport system of the U.S.; domestic and international operations of U.S. air lines.

§73 MOTOR TRANSPORTATION (3)

Three hours per week.

Early development of motor transportation, the effect of World Wars I and II on motor transportation, our highway network, property carrier aspects of commercial motor transportation and equipment needed, methods of buying and selling motor transportation, tariffs, claims and claim prevention, insurance, regulation of motor carriers and passenger operations of motor carriers.

§80a FUNDAMENTALS OF LIFE AND HEALTH INSURANCE (3)

Three hours per week.

Economic uses of life insurance and annuities. Types of contracts. The arithmetic of premiums and reserves. Introduction to health insurance. Company operations. Settlement options and programming.
Commences preparation for CLU Examination, Part I.

§Evening College only.

Business and Data Processing (continued)

§80b FUNDAMENTALS OF LIFE AND HEALTH INSURANCE (3)

Three hours per week.

Prerequisite: Completion of Bus. 80a, or permission of instructor.

Continuation of CLU, Part I. Discussion of life insurance, settlement options, social security, government programs, programming and taxation. Also covered are life and health insurance company operations in regard to risk selection, organization, regulating, investment, policies.

When the student has completed Bus. 80a and Bus. 80b, he has had preparation to pass the CLU Examination, Part I.

81 SECURITY INVESTMENTS (3)

Three hours per week.

Prerequisite: Second year students or consent of instructor.

Stocks, bonds and investment trusts; investment policies, evaluation, charting—issues and industries.

82a PRINCIPLES OF INSURANCE (3)

Three hours per week.

Covers each type of insurance with the fundamental underlying principles, the organization of insurance business and accepted insurance practices.

Designed for all majors in Business who seek to pass the state examination for insurance salesmen, as well as the general student.

§82b PROPERTY AND CASUALTY INSURANCE (3)

Three hours per week.

Prerequisite: Bus. 82a.

Analysis of fire insurance contracts and forms; protection of mortgagee's interest; consequential loss; fire insurance rating and engineering; ocean marine and inland marine insurance—nationwide definition, bailees' customers, contractors; equipment, transportation and inland blocks.

Qualifies for Insurance Institute of America's National Examination for Part "B."

83a-83b REAL ESTATE PRINCIPLES (Basic and Advanced) (3-4)

83a—Three hours per week; 83b—Four 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 consent of instructor.

§Evening College only.

Business and Data Processing (continued)

83a—Property, contracts, agency, listing and deposit receipts, real estate financing, mortgages and deeds of trust, agreements of sale, deeds, acknowledgement, recordation, liens and encumbrances, taxes, homesteads, escrows and title insurance, land description, real estate mathematics, California real estate law.

Assists toward basic license preparation.

83b—Problem assignments as they relate to types of contracts used in the real estate profession, financing aspects, deeds and conveyances, liens, principles of agency, legal aspects, the escrow procedure, leasing of properties and real estate mathematics.

Assists toward Salesmen's and Broker's License preparation. Approved by Division of Real Estate as substitute for Bus. 85 toward Broker's examination qualification. Both courses may apply toward Real Estate Certificate.

83c REAL ESTATE MATHEMATICS (1)

Prerequisite: Concurrent enrollment in Bus. 83b.

A 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 REAL ESTATE VALUATION, INVESTMENT AND MANAGEMENT (3)

Three hours per week.

Prerequisite: None. Concurrent registration in Bus. 83a recommended.

Growth and development of California. Basic real estate principles, measuring changing value of money, the real estate cycle. Estimating: costs, depreciation, taxes, maintenance and insurance, interest costs, return on investment. Leases and property management, percentage and ground leases, selecting tenants. Accounting: rules—capital gains and losses, accelerated methods of calculating depreciation charges.

Personal use and License preparation.

§85 REAL ESTATE PRACTICE (3)

Prerequisite: Salesman's or broker's license, or completion of Bus. 83a and 84.

A 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.

§Evening College only.

Business and Data Processing (continued)

§87 LEGAL ASPECTS OF REAL ESTATE (3)

Prerequisite: Salesman's or broker's license, or completion of Bus. 83a and 84; or completion of Bus. 85.

The practice of real estate brokerage, real estate sales, property management, real estate ownership, the management or 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 REAL ESTATE FINANCE (3)

Prerequisite: Salesman's or broker's license, or completion of Bus. 83a and 84; or completion of Bus. 85.

Practices, customs and laws relating to mortgage lending and the financing of real estate, with emphasis on financing private houses.

90a BEGINNING SHORTHAND (5)

Five class hours and one lab hour by arrangement per week.

Prerequisites: Enrollment in or completion of Bus. 92a or equivalent and completion of or enrollment in Business English or English A or 1A. Open only to students with no previous training in shorthand.

Foundation course in Gregg Shorthand Diamond Jubilee principles—theory, dictation and transcription.

***90b INTERMEDIATE SHORTHAND (4 or 7)**

Ten class hours and one lab hour by arrangement per week for 7 units.

Six class hours and one lab hour by arrangement per week for 4 units.

Prerequisites: Bus. 90a or its equivalent and completion of or enrollment in Bus. 92b or equivalent; completion of or enrollment in Bus. 91 or English A or 1A.

Training in vocational application of shorthand through intensive dictation and transcription with emphasis on the integration of specific secretarial skills.

Designed for students with previous transcription training but insufficient skill to qualify for Bus. 90c.

§90bx INTERMEDIATE SHORTHAND (3)

Five hours per week.

Prerequisite: Bus. 90a or its equivalent and completion of, or enrollment in, Bus. 92b or equivalent.

Integration of specific secretarial skills through intensive dictation and transcription.

This course parallels the first half of Bus. 90b offered in the Day College.

*Day College only.
§Evening College only.

Business and Data Processing (continued)

§90by INTERMEDIATE SHORTHAND (4)

Five hours per week.

Prerequisite: Bus. 90bx.

Further development of shorthand speed with emphasis on transcription production.

This course parallels the second half of Bus. 90b offered in the Day College.

***90c ADVANCED SHORTHAND (4-5)**

Six class hours and one lab hour per week.

Prerequisites: Bus. 90b or its equivalent and completion of or enrollment in Bus. 91 or English A or 1A.

Intensive training in the vocational application of specific secretarial skills with emphasis on practical experience. One unit may be earned by office work by arrangement.

***90L LEGAL SHORTHAND AND TRANSCRIPTION (2)**

Four hours per week.

Prerequisites: Completion of Bus. 92b, 90c and completion of or enrollment in English A. Concurrent enrollment in Bus. 100L.

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.

***90M MEDICAL DICTATION AND TRANSCRIPTION (2)**

Four hours per week.

Prerequisites: Bus. 57, completion of Bus. 92b and 90b or equivalent; competion of or enrollment in English A.

Dictation and transcription of medical case histories, correspondence and reports.

90r REFRESHER SHORTHAND (3)

Three hours per week and one lab hour per week by arrangement.

Prerequisites: Enrollment in or completion of Bus. 91 or English A or 1a.

For students with insufficient training in shorthand to qualify for Bus. 90b.

*Day College only.
§Evening College only.

Business and Data Processing (continued)

***90T TECHNICAL DICTATION AND TRANSCRIPTION (2)**

Four hours per week.

Prerequisites: Completion of or enrollment in English A, completion of or current enrollment in Bus. 92T, 100T, and completion of Bus. 90c with a grade of C or better.

Techno-scientific dictation and transcription related to the following areas: Study of shorthand outlines for common technical terms. Speed development and skill application in shorthand and transcription.

91 BUSINESS ENGLISH (3)

Three hours per week.

Grammar, punctuation, spelling, word usage, vocabulary building, use of dictionary and references for secretarial and clerical majors.

92a BEGINNING TYPING (3)

Five hours per week.

Prerequisite: No previous typing instruction.

An elementary course designed to develop correct typing techniques, basic skill in the operation of the typewriter.

92b INTERMEDIATE TYPING (3)

Five hours per week.

Prerequisite: Bus. 92a with a grade of C or better or an equivalent proficiency in typewriting.

An intermediate course designed to increase speed and accuracy of typing and improve production rate of typing a variety of business problems.

***92c TYPING (3)**

Five hours per week.

Prerequisite: Bus. 92b with a grade of C or better, or satisfactory completion of two years of typing in high school.

Production typing with emphasis on speed and accuracy in the preparation of business and legal letters and forms, including financial and statistical reports.

92r REFRESHER TYPING (3)

Five hours per week.

Prerequisite: For students with insufficient training in typing to qualify for Bus. 92b.

Review of keyboard and correct techniques with emphasis on skill development; introduction to reports and business letters, forms and problems.

*Day College only.

Business and Data Processing (continued)

***92T TECHNICAL TYPEWRITING (3)**

Six hours per week.

Prerequisite: Completion of Bus. 92b with grade of B or better, or completion of Bus. 92 with grade of C or better.

Comprehensive and intensive training and practice in typing techno-scientific reports and in preparing layouts, tabulated data, equations and other correlated reports.

***93 MACHINE CALCULATION (3)**

Five hours per week.

Prerequisite: Bus. 50, or permission of instructor.

Performance of arithmetic calculations on machines with special emphasis on actual business situations and problems. One-half of the semester will be devoted to the operation of key-driven calculators and one-half to rotary-type calculators, and touch system of operating printing calculators.

***100a OFFICE PROCEDURES (3)**

Five hours per week.

Prerequisites: Bus. 92b or an equivalent proficiency in typing; completion of or enrollment in English A, 1A, or Bus. 91.

Development of skill in the use of the proportional-space typewriter, transcription machines and duplicating machines; proficiency in records management and reproduction typing.

***100b OFFICE PROCEDURES (3)**

Five hours per week.

Prerequisites: Completion of or enrollment in English A or 1A, Bus. 92b or equivalent, or 100a or equivalent.

Integration of training through simulated office experience with emphasis on techniques of administration.

***100L LEGAL SECRETARIAL PROCEDURES AND OFFICE ADMINISRATION (3)**

Five hours per week.

Prerequisites: Proficiency in related secretarial skills as follows: English—Completion of or enrollment in English A. Typing—Completion of Bus. 92b or its equivalent. Shorthand—Completion of Bus. 90c and Bus. 100a or equivalent; completion of or enrollment in 90L.

An intensive course in specialized procedures applicable to 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.

*Day College only.

Business and Data Processing (continued)

***100M MEDICAL OFFICE PROCEDURES (3)**

Five hours per week.

Application of secretarial knowledge, skills and procedures to the medical office.

Prerequisites: Bus. 57, 59, 100a and enrollment in or completion of English A.

***100T TECHNICAL SECRETARIAL PROCEDURES AND OFFICE ADMINISTRATION**

Five hours per week.

Prerequisites: Completion of Business English or completion of or enrollment in English A, completion of or enrollment in Bus. 92t, and completion of Bus. 100a.

Specialized techno-scientific office routines, production and assembly of technical communications, security and records management.

***105 COST ACCOUNTING (3)**

Three hours of lecture per week.

Prerequisites: Business Administration 1a and 1b.

Techniques, records and theory of gathering, analyzing and presenting cost data, with attention to unit cost determination in standard costing and direct costing systems in both job and process costing situations. Budgetary control and analyses for management are among the applications of cost accounting considered.

***108a-108b OFFICE INTERNSHIP (3)**

Prerequisites: Concurrent enrollment in Intermediate or Advanced Shorthand and/or a typing class or Bus. 100a and part-time employment (minimum of eight hours each week) in office work. Not open to first-semester students.

Seminar meets weekly. Speakers from business offices, discussions of individual and group job problems, field trips, special projects. Secretarial and clerical students have the opportunity to work under supervision of an experienced business teacher in adapting knowledge, skills and atttitudes to office work.

***108S OFFICE INTERNSHIP FOR SPECIALIZED SECRETARIES (3)**

Two seminar hours and part-time employment in a specialized office.

Prerequisite: Completion of or enrollment in Bus. 100L, M or T.

On-the-job training for students who have completed the required preparatory courses in the Specialized Secretarial Curriculum—includes a two-hour weekly seminar and a minimum of eight hours per week employment in an office (legal, medical or technical).

*Day College only.

Business and Data Processing (continued)

***109a-109b-109c MERCHANDISING INTERNSHIP (3)**

Class meets one day per week; sessions vary from two to four hours in length.

Prerequisites: Bus. 10; concurrent enrollment in one of the following: Bus. 110, Bus. 116, Bus. 118, Bus. 120 or Bus. 124 or by approval of the instructor; and part-time employment in the distributive field.

Designed for the terminal student majoring in Merchandising. Activities include: (1) Job-Problems Seminar—group discussion based on individual and group job problems, and (2) Laboratory Field Study—selected field trips.

110 FUNDAMENTALS OF SALESMANSHIP (3)

Three hours per week.

Prerequisite: Bus. 10 is strongly recommended.

Covers the role and impact of personal selling in the marketing process of our business community. 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.

§111 FUNDAMENTALS OF REAL ESTATE SALESMANSHIP (2)

Prerequisite: Salesman's or broker's license, or completion of 83a and 84.

Designed to assist newly licensed sales personnel to develop the specialized techniques required to promote an effective sales record. Coordinates the theoretical background required for State examinations into the area of property merchandising.

116 MERCHANDISING (3)

Three hours per week.

Prerequisite: Bus. 10 and Bus. 50 (if required by test).

Retail processes emphasized include merchandise planning and control, buying and receiving, pricing, sales promotion and customer services.

118 SUPERVISORY MANAGEMENT (3)

Three hours per week.

Prerequisite: Bus. 10 and sophomore standing.

Covers the wide range of management attitudes and skills needed by first-line supervisors, whether they are responsible for industrial production, clerical operations, technical services or retail activities. Job problems are examined through discussion and use of case-studies. Designed to help students to be more efficient in their initial jobs and to prepare them for more responsible positions.

*Day College only.
§Evening College only.

Business and Data Processing (continued)

120 ADVERTISING (3)

Three hours per week.

Not open to first semester freshmen.

The role of advertising in our economic life with emphasis on advertising methods and media.

§123 PUBLIC RELATIONS (3)

Three hours per week.

A practical course dealing with the role of public relations in business and industry. The course also covers the fundamental principles, procedures and tools used in public relations.

124 MARKETING (3)

Three hours per week.

Prerequisite: Bus. 10 or Mgmt. 99, or consent of instructor.

A broad study of marketing principles and methods applicable to both consumer and industrial goods. Major topics include retailing and wholesaling consumers' goods, marketing industrial goods, marketing policies and practices, and government relationships to marketing.

§130 FOUNDATIONS OF CALIFORNIA REAL ESTATE LAW (3)

Prerequisite: Broker's license, or completion of five courses required for Real Estate certificate.

The effect of the geography and geology of California on its real estate, transportation, and communications; political development of California, economic development, water resources, evolution of land usage, the economic base of the community and its effect on real estate.

§131 REAL ESTATE ECONOMICS (3)

Prerequisite: Broker's license, or completion of five courses required for Real Estate certificate, or consent of instructor.

A practical study of the economic aspects of real estate designed to provide a grasp of the dynamic economic conditions and other factors underlying the real estate business.

§Evening College only.

Business and Data Processing (continued)

§133 BUILDING COST ESTIMATING (3)

Prerequisite: Broker's license, or completion of five courses required for Real Estate certificate.

Estimating, quantity surveys from plans and specifications, assembly cost data, pricing labor and material, compilation of bids; consideration of offices and field organization, equipment and plant, job costs, insurance, taxes, overhead, profit, California Code, laws, ordinances and administrative orders affecting the building and construction industry.

§134 REAL ESTATE APPRAISAL (Basic) (3)

Prerequisite: Competion of Bus. 83a and 84, or broker's license, or two years' full-time appraisal experience or consent of the instructor.

A first course in real estate appraisal; both residential and commercial properties are analyzed. Methods and techniques for determination of loan, market and insurance values.

§135 ADVANCED REAL ESTATE APPRAISAL (Urban) (3)

Prerequisite: Satisfactory completion of Bus. 134, or broker's license, or two years' full-time appraisal experience.

A second and more advanced course in real estate appraisal of multi-family dwellings, apartment houses, commercial and special purpose property.

§136 ADVANCED REAL ESTATE APPRAISAL (Rural) (3)

Prerequisite: Satisfactory completion of Bus. 134.

An advanced course in real estate appraisal of rural properties, covering three types: row crop, orchard, and livestock properties.

§138 REAL ESTATE EXCHANGES AND TAXATION (3)

Prerequisite: Broker's license, or completion of five courses required for Real Estate certificate.

An advanced course for real estate brokers who have had a broad experience in residential, commercial, and urban land transactions. Primary emphasis is placed on developing and analyzing exchange transactions, the practical and technical aspects involved in completing such transactions, and the correlation of exchanges and tax matters which frequently constitute the prime reason for exchange.

§Evening College only.

Business and Data Processing (continued)

§139—COMMERCIAL AND INVESTMENT PROPERTY (3)

Prerequisite: Broker's license, or completion of five courses required for Real Estate certificate.

A course for licensed real estate brokers and salesmen, mortgage banking and trust department officials, and investors, emphasizing the process of selecting various types of commercial properties for investment purposes and analyzing locations, income, operating expenses, depreciation and obsolescence.

§140 REAL ESTATE MATHEMATICS (3)

Designed to provide the student with a 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, escrow, interest calculations and capitalization techniques.

§141 REAL ESTATE PROPERTY MANAGEMENT (3)

Three lecture hours per week.

Prerequisite: Bus. 85 or 87; or consent of instructor.

A practical, applied study of the management of income-producing real estate with particular emphasis on neighborhood analysis; rent schedules; management procedures; selection of personnel; contracts and purchasing; interior and exterior maintenance and repairs; leasing procedures, management problems and accounting and investment planning.

*142a142b REAL ESTATE INTERNSHIP (2-2)

142a consists of 10 laboratory hours per week.

142b consists of two lecture hours per week.

Prerequisites: Business 83a and 84. Business 83b or 85 may be taken concurrently. Business 142a must be taken concurrently with 142b. A State Real Estate Salesman's License is desirable but not essential.

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. This is intended to assist the student enrolled in the work experience education program.

§145a TITLE EXAMINING PROCEDURES (Basic) (3)

Compiling and interpreting data from various official sources leading to the production of evidence of ownership of real estate.

*Day College only.
§Evening College only.

Business and Data Processing (continued)

§145b ESCROW PROCEDURES (Basic) (3)

Prerequisite: Bus. 145a, or equivalent experience approved by the instructor.

Methods and techniques of escrow procedures. Legal and ethical responsibilities of persons engaged in escrow work. Types of instruments used on the job, techniques required for their preparation, preparation of closing statements and disbursement of funds, proration calculations, public relations and service aspects of the industry.

§145c TITLE EXAMINING PROCEDURES (Advanced) (3)

Prerequisite: Bus. 145a, or equivalent experience.

A comprehensive study of map reading, easements, and appurtenant easements. A study of abandonments, including vesting and effect of various types of abandonments. Procedure for examining court proceedings as they relate to divorce, probate, foreclosures, etc. Detailed studies of community and separate property problems.

Business Administration

Instructors: Mr. George, Chairman; Mr. Justice, Mr. Woods, Mr. Smart, Mr. Berry, Mr. Billeter, Mr. Spencer, Mr. Montgomery.

Students graduating with a major in the field of Business Administration must meet the following requirement:

Mathematics—A percentile rating of 35 or over on the quantitative part of the SCAT entrance examination or its equivalent test score 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.

1a-1b PRINCIPLES OF ACCOUNTING (4-4)

Five hours per week.

Prerequisite: 1a—None. Completion of or concurrent enrollment in Bus. 50 or 51 is recommended. 1b—Bus. Adm. 1a or equivalent, with a grade of C or higher.

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.

§Evening College only.

70-71

Business Administration (continued)

18a COMMERCIAL LAW (3)

Three 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, agency and employer-employee relations.

18b COMMERCIAL LAW (3)

Three 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 GOVERNMENTAL REGULATORY POWER (3)

Three lecture hours per week.

Prerequisite: Eligibility for English 1a or consent of instructor.

Legal environment of business. Evoluition, trend and implication of government regulation of business and the economy. Includes discussion of sources of power within the government and constitutional limitations thereon, together with specific regulatory powers and their administration.

Chemistry

Instructors: Mr. Tracy, Mr. Ice, Mrs. Husted, Mr. LeGallais, Mr. Swanson, Mr. Clinkscales, Mr. DeGregorio, Mr. Keller, Mr. Batch, Mrs. Murashige.

1a-1b GENERAL CHEMISTRY (5-5)

Three lecture hours and two three-hour lab periods per week.

Prerequisites: 1a—Chem. 10 and 11 with grade of C or better, or high school chemistry with grade of C plus or better, and two years of high school mathematics; high school physics recommended. 1b—Chem. 1a with grade of C or better.

1a — Principles of inorganic chemistry and an introduction to organic chemistry, for students majoring in Engineering, Physical Science, Medical Arts and other Science fields.

1b — Includes descriptive chemistry of the elements, qualitative analysis and introduction to nuclear chemistry.

Chemistry (continued)

*5 QUANTITATIVE ANALYSIS (4)

Two one-hour lectures and two three-hour lab periods per week.

Prerequisite: Chem. 1b (Grade of C or better).

A study of the theory, calculations and common analytical procedures of quantitative analysis and the acquisition of related basic skills and techniques.

Required of some students intending to continue in Chemistry, Medicine, Dentistry and some curricula in Agriculture.

*7 INTRODUCTION TO PHYSICAL CHEMISTRY (4)

Three one-hour lectures and one three-hour lab period per week.

Prerequisites: Chem. 1a-1b, 5.

A study of the properties of matter, solutions, equilibrium, hydrogen ion concentration, thermochemistry and reaction velocity.

8 ELEMENTARY ORGANIC CHEMISTRY (3)

Three one-hour lectures per week.

Prerequisite: Chem. 1a (Grade C or better) or Chem. 10 with permission of instructor. (Recommended for students needing only one semester of organic chemistry.)

General scope and basic concepts of structure, behavior and mode of reaction of organic compounds.

9 ELEMENTARY ORGANIC CHEMISTRY LABORATORY (3)

Two three-hour lecture-lab periods per week.

Prerequisite: Concurrent enrollment in, or completion of Chem. 8.

Techniques of general use in the organic chemistry laboratory. Includes methods of separation, purification, identification of unknowns and synthesis.

10 SURVEY OF CHEMISTRY (3)

Three lecture hours per week.

Not open to students who have had or are taking Chem. 1a.

A general survey of the more important theories, laws and concepts of Chemistry. Chemical properties of inorganic and organic substances; their relation to atomic, molecular and ionic structure of matter; some applications to daily life.

For non-Science majors and students who need an introductory Chemistry course. Recommended for students in the A.A. Degree Nursing Program who have not had high school Chemistry.

*Day College only.

70-71

Chemistry (continued)

10L SURVEY OF CHEMISTRY LABORATORY (1)

One recitation hour and two lab hours per week.

Prerequisite: Enrollment in Chem. 10.

Designed as an optional lab period to accompany Chem. 10. (Chem. 10 and 10L together satisfy the requirement of several curricula for a lab science.).

This lab course is not sufficient preparation for the student planning to enter Chem. 1a. (See Chem. 11.)

11 LABORATORY PREPARATION FOR CHEMISTRY 1a (2)

Two recitation hours and two two-hour labs per week.

Prerequisite: Concurrent enrollment in Chem. 10 and two years of high school mathematics.

Designed to accompany Chemistry 10 as a preparation for Chemistry 1a. The course will stress quantitative problems, including a mathematical review, elementary chemical calculations and slide rule instruction.

***12a ORGANIC CHEMISTRY (6)**

Four lecture hours and two three-hour lab periods per week.

Prerequisite: Chem. 1b with Grade C or better.

Similar to Chem. 8 and 9, but with additional emphasis on reaction mechanisms and the effect of structure on them.

Recommended for students intending to take a second semester of Organic Chemistry.

49 SPECIAL PROJECTS (1-2)

Hours by arrangement.

Prerequisites: Completion of Chem. 1a, sophomore standing and permission of the Physical Science Chairman.

§51 ELEMENTARY CHEMISTRY (4)

One three-hour lecture period and one three-hour lab period per week.

Prerequisite: Math. 11, or one year of high school Algebra.

Introduction to some of the theories, laws and concepts of chemistry; a study of some of the more important elements and compounds as preparation for Chem. 1a.

*Day College only.
§Evening College only.

Community Services Programs

The Community Services Program of the College of San Mateo offers a wide variety of lectures, workshops, forums, performances and non-credit courses.

For a complete listing of these activities, call the Community Services office (341-6161, Ext. 234). A brochure of the semester's activities will be mailed to you, upon request.

Conservation

Instructor: Mr. Clemens.

1 ESSENTIALS OF CONSERVATION (3)

Three hours of lecture 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.

Cooperative Education

Insructor: Mr. de la Rocha.

1 COOPERATIVE EDUCATION (3) repeat ones for 6 units
Cooperative Education endeavors to give the student field experience which is related to his major. 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 Alternate Semester Plan provides the student with full-time field experience for half a year. The second half of the year is spent in school.
(Further information is available in Building 1, Room 251.)
2 coop ed. 5 times for 15 units - working in area

Cosmetology

Instructors: Mrs. Bush, Mrs. Petelin, Mrs. Casstevens, Mrs. Stock, Mrs. Benjamin.

***50 COSMETOLOGY (14)**

Five lecture hours and 27 lab hours per week.

Prerequisite: Registration in Cosmetology Curriculum.

All subjects required for licensing as a Cosmetologist by the California State Board of Cosmetology; physiology and anatomy of the human body; histology of skin, hair and nails; hair tinting and bleaching, permanent waving, hair shaping and styling; care of skin and make-up; manicuring; sanitation and sterilization; shop management and salesmanship; cosmetic chemistry; electricity and care of electrical equipment.

*Day College only.

Cosmetology (continued)

***51 COSMETOLOGY (14)**

Five lecture hours and 27 lab hours per week.

Prerequisite: Grade of C or better in Cosmetology 50.

Continuation of Cosmetology 50.

***52 COSMETOLOGY (Brush-up) (14)**

Five lecture hours and 27 lab hours per week.

Prerequisite: Cosmetology license.

For supplemental training requirements or out-of-state requirements. Consent of instructor prior to state examination required after completion of training.

***53 MANICURIST (14)**

Five lecture hours and 27 lab hours per week.

Prerequisite: Registration in Cosmetology curriculum.

Three hundred and fifty hours in training in theory and practice in the art of manicuring and pedicuring in preparation for licensure by the California State Board of Cosmetology, in that field only. Enrollment limited.

§90 ADVANCED WORKSHOP (1)

Three hours per week for nine weeks.

Prerequisite: California Cosmetologist's License.

Emphasis on current techniques in shaping, curl construction, styling and related salon practices. Hairpieces included.

Data Processing

(See also Math. 25)

Instructors: Mr. Billeter, Mr. Rategan.

60 INTRODUCTION TO DATA PROCESSING (3)

Three hours of lecture per week.

Brief history of data processing; functional principles and capabilities of punched card and EDP equipment; flowcharting techniques applied to simple business applications; characteristics of computer storage, data representation, and arithmetic; symbolic programming concepts; basic principles of programming and operating systems.

*Day College only.
§Evening College only.

Data Processing (continued)

61 PUNCHED CARD EQUIPMENT OPERATION AND WIRING (4)

Three hours of lecture and two hours of lab per week.

Prerequisite: Data Proc. 60 with a grade of C or better, or consent of the instructor.

Design of procedures, cards and forms for simple business problems; wiring and testing of control panels for the interpreter, reproducer, collator and accounting machine.

62 BASIC COMPUTER PROGRAMMING (4)

Three hours of lecture and three hours of lab per week.

Prerequisite: Data Proc. 60 with a grade of C or better, or consent of instructor. The student will write and test programs and subroutines in assembler language, including input/output, arithmetic, logic and data movement operations to process sequential files.

63 RPG PROGRAMMING (3)

Three hours of lecture per week.

Prerequisite: Consent of the instructor.

The student will write Report Program Generator specifications to process typical business problems involving sequential files. Remote testing of student programs.

64a BASIC COBOL PROGRAMMING (3)

Three hours of lecture per week.

Prerequisite: Data Proc. 62 with a grade of C or better, or consent of the instructor.

Formats of the four COBOL divisions; file, record and item descriptions; ways of naming data-items; formats of the most commonly used procedural words. Student will compose programs to process sequential files; remote testing of student programs.

64b ADVANCED COBOL PROGRAMMING (3)

Three hours of lecture per week.

Prerequisite: Data Proc. 64a with a grade of C or better, or consent of the instructor.

Emphasis on writing efficient COBOL programs; use of advanced options of certain procedural words; organization and processing techniques used with random files. Student will compose programs to process sequential and random files; remote testing of student programs.

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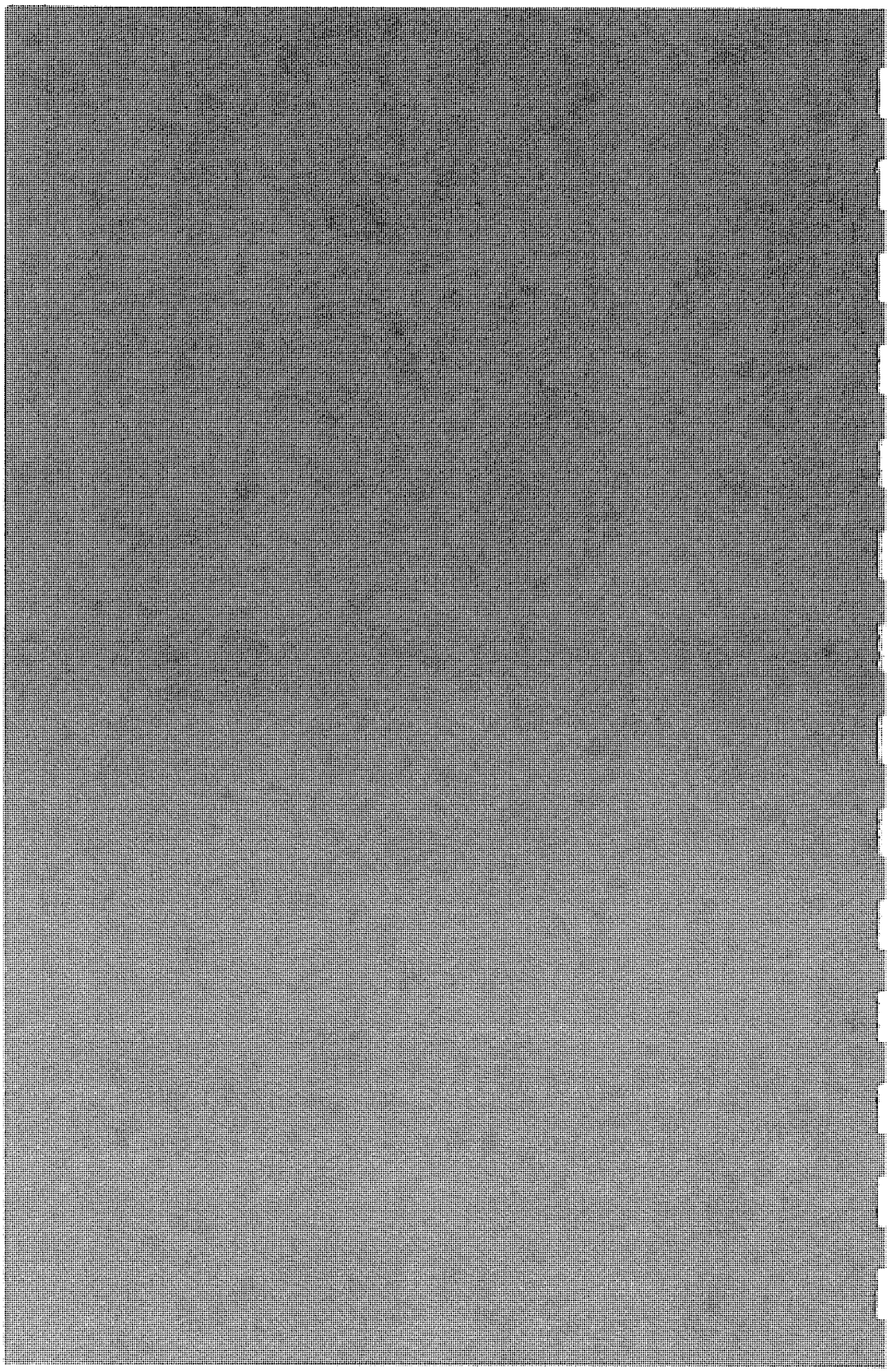


Data Processing (continued)

§65a BASIC SYSTEM 360 ASSEMBLER LANGUAGE PROGRAMMING (3)

Three hours of lecture per week.

Prerequisite: Data Proc. 62 with a grade of C or better, or consent of the instructor.

Design and organization of the IBM 360 computer system. Data formats; basic, commercial and scientific instruction sets. Physical input/output, supervisor state. Introduction to magnetic tape, disk and drum storage organization. Student will write and test simple programs in System 360 assembler language.

§65b ADVANCED SYSTEM 360 ASSEMBLER LANGUAGE PROGRAMMING (3)

Three hours of lecture per week.

Prerequisite: Data Proc. 65a with a grade of C or better, or consent of the instructor.

Student will write and test assembler language programs utilizing advanced programming methods for the IBM 360 computer system. Operating System and Disk Operating System functions; logical tape and disk input/output. Introduction to communications programming and multiprogramming.

§66 PL/1 PROGRAMMING (3)

Three hours of lecture per week.

Prerequisite: Data Proc. 64a or Math. 25 with a grade of C or better, or permission of the instructor.

A comprehensive course in the PL/1 language designed to develop fluency and accuracy in writing programs. The commercial subsets of PL/1 will be stressed. Scientific subsets will be covered in less detail. All forms of input/output design will be covered. Student programs will be tested remotely.

§90 DATA PROCESSING FOR MANAGERS (3)

Three hours of lecture per week.

This course may not be taken in lieu of Data Proc. 60.

Brief discussion of punched card and computer hardware and flowcharting techniques. Feasibility studies, organization and staffing of the data processing department within a company. Typical applications of data processing equipment to business requirements; document, accounting, and systems controls and the audit trail; evaluating performance and planning for growth.

97 CARD PUNCH (3)

Six hours per week.

Prerequisite: Consent of the instructor.

Program card design; discussion of features on IBM 024, 026 and 029 card punches; practice exercises involving typical business applications. Student will acquire a basic skill to prepare himself for employment as a card punch operator. Enrollment is limited to the number of machines available.

§Evening College only.

Data Processing (continued)

§106 DATA PROCESSING FIELD PROJECTS (2-4)

Hours by arrangement.

Prerequisite: Data Proc. 62 or consent of the instructor.

Directed individual study arranged between the student and the instructor.

Dendrology

Instructor: Mr. Dehnel.

***1 DENDROLOGY (3)**

Two hours of lecture and three hours of lab per week.

Prerequisite: Botany 1, or permission of the instructor.

Lectures, laboratories and field trips; classification, distribution, growth requirements and identification of forest trees and shrubs. Field trips will be scheduled on weekends.

Dental Assisting

Instructors: Mrs. Rue, Mrs. Langston, Mrs. Witzel.

***50a-50b DENTAL SCIENCE AND ANATOMY (3-3)**

Tooth growth, eruption and anatomy. Drawing and carving teeth in wax to millimeter measurement. Anatomy of the head and face, the oral cavity in health and disease, dental nomenclature, oral hygiene and fluoridation.

***51a-51b THE DENTAL ASSISTANT IN PRACTICE (3-3)**

An orientation to dental assisting, the dental office and auxiliary personnel, ethics of the profession, patient education, psychology and public relations, written communication, office maintenance, preparation for clinical practice.

This course must be taken concurrently with D.A. 50a-b.

***60a-60b—DENTAL LABORATORY PROCEDURES (3-3)**

Prerequisites: D.A. 50a-b, D.A. 51a-b.

Carving, investing and casting inlays; pouring models; making dies and custom impression trays; use of equipment; preparation of impression materials and principles of safety.

*Day College only.
§Evening College only.

Dental Assisting (continued)

***61a-61b DENTAL X-RAY (3-3)**

Prerequisites: D.A. 50a-b, D.A. 51a-b.

Theory and techniques of dental procedures including the mechanical aspects and operation of the x-ray units; safety requirements; the making of intra-oral and extra-oral exposures; the processing, mounting and filing of finished films.

***62a-62b OPERATING ROOM PROCEDURES (3-3)**

Prerequisites: D.A. 50a-b, D.A. 51a-b.

Names and uses of dental instruments, the preparation and use of dental materials, preparation and care of patients, proper chairside assistance, sterilizing procedures, first aid and operation of equipment.

***63a-63b PRACTICE MANAGEMENT (3-3)**

Prerequisites: D.A. 50a-b, D.A. 51a-b.

General office management, record keeping and filing, bookkeeping, banking procedures, correspondence, telephone communication, collections, government tax returns, jurisprudence, inventory and purchasing.

***64c CLINICAL PRACTICE (1)**

The student is assigned to duty in the clinical departments of the School of Dentistry, University of the Pacific, San Francisco and/or the School of Dentistry, University of California, San Francisco Medical Center.

This course is taken concurrently with D.A. 60a-b, D.A. 61a-b, D.A. 62a-b and D.A. 63a-b.

Drafting Technology

Instructors: Mr. McClure, Mr. Scott, Mr. Chowenhill, Mr. Stack, Mr. Walter.

14 PRINCIPLES OF TECHNICAL DRAWING (3)

Two lecture and four lab hours per week.

Prerequisite: None. Open to all majors.

A basic mechanical drawing course with instruction surveying the field of graphic communications. Topics include visualization, geometric construction, dimensioning, fasteners, welding, electro-mechanical and architectural drafting principles. It is a one-semester standard college transfer course in mechanical drawing.

***51a-51b APPLIED DRAFTING MATHEMATICS (3-3)**

Three one-hour lectures 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, use of the slide rule and practical plane trigonometry.

*Day College only.

Drafting Technology (continued)

***52a-52b 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, or consent of the instructor; 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 drawings, threads and fasteners, gears, tolerancing, pictorial projections, intersections, developments and assembly drawings.

***62a-62b ADVANCED TECHNICAL DRAFTING (5-5)**

Five three-hour periods per week.

Prerequisite: A grade of C or better in D.T. 52a-b, or permission of instructor.

62a — Cams, assembly drawings, geometric tolerances, welding, jigs and fixture design, pneumatics, hydraulics and piping.
62b — Topographic drafting, production illustration, electrical and electronic drafting, structural drawing.

***63 BASIC TECHNICAL DESIGN (3)**

Three lecture hours per week.

Prerequisites: Technology 72 and 74, concurrent enrollment in D.T. 62a.

A required course of related instruction in the drafting program.

An application of the materials covered in Technology 72 and 74 to the solution of engineering problems. Designed to provide draftsmen with sufficient skills to make elementary design decisions. Considers the problems of producibility, value engineering and reliability. Includes numerically-controlled machines and programs.

EVENING COLLEGE CERTIFICATION

Upon completion of 24 semester units of drafting and related courses, a student may be awarded a Certificate in Industrial Drafting. For complete details, contact the Technical Division.

§102a-102b BASIC TECHNICAL DRAFTING (3-3)

Two hours of lecture and four hours of lab per week.

Prerequisites: 102a—None; 102b—D.T. 102a.

Working drawings, shop processes, pictorial projections, intersections, developments and simplified drafting.

*Day College only.
§Evening College only.

Drafting Technology (continued)

§112a TECHNICAL DRAFTING (3)

Two hours of lecture and four hours of lab per week.

Prerequisite: D.T. 102a.

A course in fundamental skills in terms of projections, points, lines, planes, revolutions, intersections, surfaces and sheet metal practices.

§112b ADVANCED DRAFTING TECHNOLOGY (3)

Two hours of lecture and four hours of lab per week.

Prerequisites: D.T. 102a-b; 112a.

A course in fundamental skills taught in terms of gears and cams, with emphasis on calculations, drawings and terminology. Dimensioning, tolerancing, quality control and assembly and welding drawings and process.

§122a ELECTRONICS DRAFTING (3)

Two three-hour periods per week including two hours of lecture and four hours of lab.

Prerequisites: D.T. 14 or equivalent, Electronics 10 or equivalent training, or permission of the instructor.

To teach the techniques of preparing the various types of electronic drawings used in industry.

§130a ELEMENTS OF MACHINE DESIGN (3)

One three-hour lecture session per week.

Prerequisite: D.T. 14, or knowledge of drafting fundamentals, or Mathematics through Numerical Trigonometry, or permission of instructor.

To teach the techniques of selection and computations for machine elements and for design for compound machines.

Drama

Instructors: Mr. I. White, Miss Griffin, Mr. Cate.

Courses marked with an (x) are especially recommended for adults interested in effective use of leisure time.

***1a (x) HISTORY OF DRAMATIC ARTS (CLASSICAL AND RENAISSANCE) (3)**

Three class hours per week.

Designed for students interested in the theatre. This course contains essential background material for students intending to take additional courses related to the theatre.

*Day College only.
§Evening College only.

Drama (continued)

The evolution from classical Greece to the 17th Century of physical theatres, playwriting, acting, directing and staging. In each period the principles underlying these arts will be related to dominant social, intellectual and artistic forces. Use of motion pictures, filmstrips, recordings, models and play attendance, as well as lectures and discussion.

***1b (x) HISTORY OF DRAMATIC ARTS (3)**

Three class hours per week.

Although it is recommended that students take both 1a and 1b, 1a is not a prerequisite to 1b.

Evolution of the dramatic arts from the 17th Century to the present.

***2a-2b DRAMATIC LITERATURE (3)**

Three lecture hours per week.

Prerequisites: Drama 2a—Eligibility for English A or completion of Drama 10; Drama 2b—Drama 2a.

Designed for students interested in the theatre from the viewpoint of playwrights, actors, directors, designers or critics. The drama as an art form. Emphasis is on dramatic structure, traditional theories of dramatic form, types (comedy, tragedy, melodrama) and styles (realistic, expressionistic, romantic) of the plays. Drama 2a-2b will provide the actors and directors with a large background of material from which they may successfully choose scenes for further study and development in other classes.

***10 INTRODUCTION TO THE THEATRE (3)**

Three lecture hours per week.

Designed as a General Education course for the beginning student in Drama. The various approaches to the production of a script. Lectures and demonstrations by the entire drama staff and by guest lecturers. Nomenclature, duties and responsibilities, traditions, script analysis, approach to a script from the director's viewpoint, the designer's viewpoint, the actor's viewpoint and the audience viewpoint. Special lecturers might discuss publicity, performance, music and dance, motion picture and television.

***12a-12b STAGE PRODUCTION (3-3)**

Two lecture hours and three lab hours per week.

Arts of the theatre. Lectures and laboratory sessions concerned with construction, painting and handling of scenery. Stage properties and effects. Woodworking methods as they apply to stage scenery. Rigging, construction and handling of "soft" scenery. Platforms, stairs and ramps. Materials and construction techniques for making "free" forms. Painting materials and techniques. Backstage organization. Making and remaking furniture.

Drama (continued)

***13 LIGHTING (3)**

Two lecture hours and three lab hours per week, plus one crew assignment of approximately 50 hours.

Lectures and lab sessions concerned with lighting theatrical presentations. History of theatrical lighting. Theory of theatrical and display lighting. Study of various types of lighting equipment and accessories. Elements of electricity, color in light reflection, refraction and absorption, intensity control as these subjects relate to theatrical lighting. Theory and practice relating to the design and execution of lighting for theatrical presentations and displays.

***14a THEORY AND PRACTICE OF ACTING (3)**

Four class hours per week.

Theories and techniques of acting and dramatic production, enacting and oral reading of scenes, tape recording, pantomimes and improvisations, vocal and physical exercises.

***14b-14c-14d ADVANCED ACTING AND FUNDAMENTALS OF DIRECTING (3-3-3)**

Four class hours per week.

Prerequisite: Drama 14a or equivalent.

Review of basic principles and skills of acting, advanced theories and techniques.

***15 PLAY PRODUCTION (½ to 2)**

Play rehearsals of seven weeks for each of four major productions per year, the first four weeks of which are from 3-6 p.m. daily and the last three weeks from 7-11 p.m. daily.

Prerequisite: Tryouts.

Problems of actual play production, acting.

May be repeated for credit.

***16 PRODUCTION SHOP (½ to 2)**

Play rehearsals of seven weeks for each of four major productions per year, the first four weeks of which are from 1-5 p.m. daily and the last three weeks from 7-11 p.m. daily.

Problems of actual play production: lighting, management.

May be repeated for credit.

***17 (x) COSTUME-FASHION WORKSHOP (½ to 2)**

Problems of actual play production, costumes, or makeup. This course will provide the costume and fashion students the opportunity for practical experience in design and execution of costumes for dramatic productions.

May be repeated for credit.

*Day College only.

Drama (continued)

***20 DIRECTING (3)**

Introduction to the theory and practice of play directing for theatre and screen. Analysis of plays to determine suitable acting, and staging styles and methods. Review of theories and techniques of acting. Study of composition, movement, tempo, climax, and the use of sound and music. Preparation of play-production plans and promptbooks. Production of scenes or short plays for stage and television. Observations and analyses of plays in the theatre and on the screen.

***26 THEATRE GRAPHICS (3)**

Three lecture hours per week.

Graphic arts used in the theatre. A study of techniques used in scenic design including blueprinting, transparency preparation, watercolor and perspective. A survey of techniques used in painting and lighting scenery including pigments, colored light, detail painting and the use of aniline dyes. The analysis of specialized theatrical techniques involving silk-screening, program design, model making and projected scenery.

***49 SPECIAL PROJECTS (½ to 2)**

Ecology

Instructor: Mr. Monroe.

10 INTRODUCTION TO ECOLOGY OF THE WEST (3)

Three hours of lecture per week.

Prerequisite: None, but a course in Biology, Botany or Zoology is recommended.

Introduction to the ecology of the West with emphasis on California and the Bay Area. The ecological aspects of the plant and animal groups and their controls by geology, climate, each other and by man.

Economics

Instructors: Miss Jaffy, Mr. Schneider, Mrs. Carpenter, Mr. Leroi.

1a PRINCIPLES OF ECONOMICS (3)

Three hours per week for lectures and discussion.

The American economy; the price system; the role of resources, machines and men in production; the place of firms in organizing private business; the operation of the banking system and the use of money in guiding economic activity; the overall trends of National Income and factors in its determination; policies for stabilization and growth in advanced and under-developed nations.

*Day College only.

Economics (continued)

1b PRINCIPLES OF ECONOMICS (3)

Three hours per week for lectures and discussion.

Prerequisite: Econ. 1a or consent of instructor.

Supply, demand and 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; taxes, debts and public finance; comparative economic systems of other nations.

2 ELEMENTARY STATISTICS (4)

Four hours per week.

Prerequisite: Math 13.

Statistical theory and methods for measuring the variation and uncertainty inherent in the physical, social and economic environment. Emphasis is on the application of statistical tools for solving problems in business and the social sciences.

***10 SURVEY OF ECONOMIC PROBLEMS (3)**

Three hours of lecture per week.

Non-theoretical consideration of the major economic problems which confront the citizen today.

Students who have completed Econ. 1a or 1b will not receive credit for this course.

***11 ECONOMIC HISTORY OF THE UNITED STATES (3)**

Three hours per week.

Prerequisite: None. Econ. 1a and 1b are recommended.

The 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.

This course is identical to History 11.

***12 ECONOMIC HISTORY OF EUROPE (3)**

Three hours per week.

Prerequisite: None. Econ. 1a and 1b are recommended.

The roots of modern economic society will be traced to their European origins. The rise of mercantilism, the market system, modern industrialism will be sketched against the ancient and medieval background. Attention will be given to 20th Century interwar and postwar developments, including recent movements toward European economic union.

This course is identical to History 12.

*Day College only.

Economics (continued)

***13 CURRENT ECONOMIC AND SOCIAL PROBLEMS OF LATIN AMERICA (3)**

Three hours per week for lecture and discussion.

Prerequisite: Prior study of Latin American history or politics recommended but not required.

A review of historical and political background covering the indigenous cultures, colonial period and independence; followed by intensive study of specific country problems such as inflation, population, economic growth, agrarian reform, etc.

***14a LABOR ECONOMICS (3)**

Three hours per week for lecture and discussion.

Prerequisite: Econ. 1a and 1b or consent of instructor.

The first half of the course is concerned with the composition of the labor force. the history, structure, philosophy and objectives of the trade union movement and the development of public control of labor relations. The second half is devoted to the economics of the labor market, including problems of labor supply, labor mobility, labor market organization, employment and unemployment, wage determination and economic security.

***14b COLLECTIVE BARGAINING AND PUBLIC POLICY (3)**

Three hours per week: two for lecture, one for discussion.

Prerequisite: Econ. 1a and 1b or consent of instructor.

The emergence, development and practice of collective bargaining in America. Through the study of actual collective bargaining cases, it shows how our system of industrial jurisprudence has developed, and is developing within the broad framework of public policy.

***15 PUBLIC FINANCE AND TAXATION (3)**

Three hours per week for lecture and discussion.

Prerequisite: Economics 1a and 1b or consent of instructor.

The principal sources of government revenues and the expenditures of these revenues. Concerned with such economic problems as the shifting incidence of taxation and the relativity of fiscal problems to the business cycle and to political situations.

***49 SPECIAL PROJECTS (1-2)**

Hours by arrangement.

Prerequisites: Three units of Economics and permission of the Social Science Division Chairman.

Directed individual work in a specific field or topic. Evidence of accomplishment satisfying to the instructor is required.

*Day College only.

Education

Instructor: Mr. Alexander.

1 INTRODUCTION (2)

Two hours of lecture or discussion per week.

Designed primarily for those who wish to explore teaching as a possible career and secondarily for general students interested in knowing more about American public education. The course considers 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 career planning for careers in education.

***2 THE TEACHER ASSISTANT (3)**

Three lecture hours per week.

The role of the teacher assistant in the secondary and elemenatry school structure. Specific instruction and practice in the instructional, supervisory and clerical aspects of the assistant's position.

3 READING IN PUBLIC SCHOOLS (3)

Three lecture hours per week.

Brief history of reading, physiological and psychological basis of reading, philosophy of reading instruction, individual reading instruction, group reading instruction, coordination problems in reading instruction, acceleration problems in reading, multi-media approach in reading, teacher and teaching assistant variables in reading, facts and fallacies about reading readiness, review of research findings on reading instruction.

Electronics Technology

Instructors: Mr. Angerbauer, Mr. Kellejian, Mr. Shapiro, Mr. Brames, Mr. Beaty, Mr. Camps, Mr. MacDonald, Mr. Bramlett, Mr. Gibb, Mr. Maxwell.

10 INTRODUCTION TO ELECTRONICS (3)

Three lecture hours per week. Open to all students except those who are currently enrolled in or have completed a college course in electronics.

A study of 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.

***50a, 50b, 50c ELECTRONIC CONSTRUCTION PROJECTS (1-1-1)**

Three shop hours per week.

Prerequisites: Completion of E.T. 52, 52L, and M.T. 52, or consent of instructor.

Construction and test methods in producing electronic equipment which will meet modern standards in terms of efficiency, quality and appearance.

*Day College only.

Electronics Technology (continued)

***52 ELECTRONIC PRINCIPLES AND PASSIVE NETWORKS (6)**

Six lecture hours per week.

Prerequisites: One year of high school Algebra completed within the previous four years with a grade of C or better, or consent of the instructor. Concurrent enrollment in E.T. 52L.

Basic laws and principles of electronic behavior. The functions of resistance, inductance and capacitance are covered individually and collectively in electronic networks.

***52L ELECTRONIC PRINCIPLES LABORATORY (3)**

Nine lab hours per week.

Prerequisite: Concurrent enrollment in E.T. 52.

Experiments and procedures which parallel the lecture material presented in E.T. 52. The use of basic electronic measuring equipment is stressed. A period of instruction in safety procedures is provided.

***53 ACTIVE DEVICES AND NETWORKS (6)**

Six lecture hours per week.

Prerequisites: Sucessful completion of E.T. 52 and E.T. 52L with a grade of C or better or consent of the instructor. Concurrent enrollment in E.T. 53L.

Characteristics of various types of active devices ultilized in electronic circuits.

***53L ACTIVE DEVICES LABORATORY (3)**

Nine lab hours per week.

Prerequisite: Concurrent enrollment in E.T. 53.

Experiments and procedures which parallel the lecture material presented in E.T. 53 through the use of sophisticated measuring equipment. Basic techniques of trouble-shooting.

***62 FUNCTIONAL ANALYSIS OF ELECTRONICS CIRCUITS (6)**

Six lecture hours per week.

Prerequisites: Successful completion of E.T. 53, E.T. 53L with a grade of C or better, or consent of the instructor. Concurrent enrollment in E.T. 62L is required.

A detailed study and analysis of linear and non-linear circuits. Typical circuits investigated are oscillators, multivibrators, amplifiers, gates and modulators.

***62L FUNCTIONAL ANALYSIS LABORATORY (3)**

Nine lab hours per week.

Prerequisite: Concurrent enrollment in E.T. 62.

Measure and evaluate electronic circuit responses to various types of input signals as discussed and developed in the lecture material.

*Day College only.

Electronics Technology (continued)

63 FUNCTIONAL ANALYSIS OF ELECTRONIC EQUIPMENT (6)

Six lecture hours per week.

Prerequisites: Successful completion of E.T. 62, E.T. 62L with a grade of C or better, or consent of the instructor. Concurrent enrollment in E.T. 63 is required.

A detailed study and analysis of industrial, digital and communications electronics equipment. The functional relationships of the various circuits which comprise electronic equipment in the instrument, transmitting, receiving and control area are presented.

***63L FUNCTIONAL ANALYSIS OF EQUIPMENT LABORATORY (3)**

Nine lab hours per week.

Prerequisite: Concurrent enrollment in E.T. 63 is required.

Laboratory study of electronic equipment in which adjustments, calibration, testing, analyzing, measurements and trouble-shooting are stressed.

***65 COMMERCIAL LICENSE (3)**

Three lecture hours per week.

Prerequisites: E.T. 62, concurrent enrollment in E.T. 63.

Basic material covered will be that outlined by the Federal Communications Commission. The course will serve as a study guide for the first and second class radio telephone license.

§101 APPLIED ELECTRONIC MATHEMATICS (3)

Three lecture hours per week.

Prerequisite: Math. 11 taken during the previous year with a grade of C or better, or consent of instructor.

Basic applications of algebra to the solution of problems involving direct-current circuits, machines, radio-frequency transmission and distribution circuits; elements of trigonometry, logarithms, complex numbers and vector methods as applied to alternating current circuits and high-frequency transmission lines. All problems will be drawn from actual situations encountered in the field of electronics.

§102a-102b ELEMENTARY ELECTRONICS (4-4)

Three lecture and three laboratory hours per week.

Prerequisites: 102a—A grade of C or better in high school Algebra or equivalent ability; 102b—E.T. 102a, or consent of the instructor.

Study of fundamental electronic theory, components and instrumentation. The laboratory techniques are designed to experimentally verify theoretical work.

*Day College only.
§Evening College only.

Electronics Technology (continued)

§104a-104b RADIO CODE AND AMATEUR LICENSE (2-2)

Three hours per week.

Prerequisites: 104a—None; 104b—E.T. 104a or equivalent.

Instruction in recognition of the various characters of the Morse Code. Practice in pencil copy of incoming tape material and in sending of the code to other students. Theory instruction pointed toward passing the written tests required by the FCC.

§105a-105b COMMERCIAL LICENSES (3-3)

Three lecture hours per week.

Prerequisite: Permission of the instructor.

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.

§122a-122b AMPLIFIER FUNDAMENTALS (4-4)

Three hours of lecture and three hours of laboratory per week.

Prerequisites: Satisfactory completion of E.T. 102a-b, or consent of the instructor; 122b—E.T. 122a, or consent of the instructor.

Fundamental theories of transistors, FETs and other active devices, and their applications in the fields of voltage and power amplification.

§132a-132b ELECTRONIC CIRCUITS (4-4)

Three lecture hours and three recitation hours per week.

Prerequisites: 132a—E.T. 122a, or consent of the instructor; 132b—E.T. 132a, or consent of the instructor.

Fundamental design techniques will be used in the analysis of circuits in this laboratory-oriented, two-semester course. Power supplies, integrated circuit amplifiers, power amplifiers, RF amplifiers, sine wave oscillators, non-sine wave oscillators, AM-FM modulation and wave shaping circuits will be covered. Emphasis will be placed on measurements, trouble-shooting and the proper use of laboratory equipment.

§134a-134b COMPUTERS: THEORY AND CIRCUITRY (4-4)

Three lecture hours and three hours of laboratory per week.

Prerequisites: 134a—Satisfactory completion of E.T. 122a and 122b, or consent of the instructor; 134b—E.T. 134a, or consent of the instructor.

A study in the basics of computer systems. Includes the fundamentals of Boolian algebra and logic circuits. Analogue and digital systems are covered and compared. The laboratory is used to expand the theoretical phases in terms of the use of various building blocks of the modern computer systems.

§Evening College only.

Electronics Technology (continued)

§142a-142b MICROWAVE TECHNIQUES (2-2)

Four hours per week.

Prerequisite: Consent of the instructor.

A study of the instruments used in making measurements on microwave equipment and the laboratory measurements of frequency, impedances, standing wave ratios, reflections, absorption and power in coaxial wave-guide systems. The course will use the latest type of microwave generating and measuring equipment and will be mainly concerned with X-band microwave frequency.

§143a-143b MICROWAVE THEORY (3-3)

Three lecture hours per week.

Prerequisite: Consent of the instructor.

The study of the generation of microwave signals produced by klystrons, magnetrons, backward wave oscillators and other types of microwave generators, and the instruments used to make quantitative measurements of frequency impedances, standing wave ratios, reflections, absorptions and power in wave-guide systems.

§150a-150b TELEVISION SERVICING (4-4)

Three lecture and three lab hours per week.

Prerequisite: Permission of the instructor.

Study of television, circuits, designs and equipment. Emphasis on repair, trouble-shooting and servicing of audio and video systems in black-white and color.

§155 MICROWAVE COMMUNICATIONS (3)

Three lecture hours per week.

Prerequisites: Completion of E.T. 143a-b, recommended completion of E.T. 142a, or permission of the instructor.

A study of the equipment and techniques used in the installation, adjustment and calibration of microwave communications systems. Theoretical orientation to the circuitry of microwave systems is provided.

Engineering

Instructors: Mr. Kusich, Mr. Multhaup, Mr. Smith.

Students majoring in Engineering should refer to the two-year program outlined under "Suggested Curricula."

***1a-1b ENGINEERING MEASUREMENTS (PLANE SURVEYING) (3-3)**

Two lecture hours and three lab hours per week.

Prerequisite: 1a—Trigonometry or Math. 21; 1b—Engineering 1a.

*Day College only.
§Evening College only.

Engineering (continued)

1a — Theory of measurements with applications 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 lecture 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 to supplement classroom work.

*16-17 ELEMENTARY STATICS AND STRENGTH OF MATERIALS (3-3)

Three lecture hours per week.

Prerequisites: 16—Concurrent enrollment in Math. 19 or 20; 17—satisfactory completion of Engin. 16.

16 — Elementary statics; the analysis of forces and their effects on rigid body structures by both analytical and graphical methods. Includes development of the essential mathematics and use of the slide rule.

17 — Elementary strength of materials; analysis of stresses and deformations caused by forces acting on simple structures; selection of beams, columns and joint configurations in the process of design.

(Identical to Arch. 16 and 17.)

*20 DESCRIPTIVE GEOMETRY (2)

Six lab hours per week.

Prerequisite: Math 21.

Lectures and drafting-room work on fundamental principles of descriptive geometry and their application to engineering problems.

*22 ENGINEERING GRAPHICS (2)

Six lab hours per week.

Prerequisite: Engr. 20; Math. 31 (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.

*Day College only.

Engineering (continued)

***35 STATICS (3)**

Three lecture hours per week.

Prerequisite: Math. 31. Recommended: Engin. 20 and Physics 4a.

Plane and space force systems; vector algebra equilibrium problems covering structures, machines, distributed force systems, and friction; moments of inertia.

***38 CIRCUITS AND DEVICES (3)**

Three one-hour lectures per week.

Prerequisite: Math. 32. Recommended: Physics 4b.

Introduction to circuits, natural and forced response, network theorems; characteristics and circuit models of electronic devices, and transistor amplifiers.

***45 PROPERTIES OF MATERIALS (3)**

Two lecture hours and three lab hours per week.

Prerequisite: Chem. 1a. Recommended: Physics 4a.

Introduction to mechanics of solids, atomic and crystal structure of materials, chemical and physical properties, phases and microstructures, solid state transformations, mechanical and thermal treatment of alloys. Structure and properties of semiconductors, aggregate materials and high polymers.

90a-90b ELEMENTS OF SURVEYING (3-3)

Two lecture hours and one three-hour lab period per week.

Prerequisites: 90a—High school-level Mathematics through Plane Geometry; 90b —Satisfactory completion of 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.

(Identical to Tech. 90a-90b.)

*Day College only.

70-71

English

Instructors: Mr. Gill, Chairman; Mrs. Berryhill, Miss McCue, Mr. Mullen, Mr. Savidge, Mr. Murphy, Mr. Pflug, Miss Hanigan, Mr. Cohn, Mrs. Lehman, Mr. Trouse, Mr. Williamson, Mr. Bell, Mr. Harriman, Mr. Bierce, Mr. Fitzgerald, Mr. Hardt, Mr. Holmes, Mr. Speer, Miss Alexander, Mrs. Brown, Mrs. Heyeck, Mrs. Wilson, Miss Pumphrey, Mrs. Schiebold, Mr. Frassetti, Mr. Cafferata, Mr. Kimball, Mr. Stewart, Mr. Turner, Mr. Burris, Mr. Cameron, Mrs. Petit, Mrs. Palmer.

English Placement Test—Required of all entering Freshmen. Students transferring to the College of San Mateo with credit in college English (a course equivalent to English 1a, Reading and Composition) will not be required to take the test. It is designed to determine the entrant's ability in reading, the mechanics of writing and in composition. It is used to determine placement of students in English courses and to establish eligibility for English 1a and other college transfer courses in English.

1a-1b READING AND COMPOSITION (3-3)

Three hours per week.

Prerequisites: 1a—Eligibility as determined by English Placement Test or passing grade in English A; 1b—English 1a.

1a — Practice in writing based on a study of the form and content of the essay.

1b — Introduction to literature; a study of literary types: short story, drama, poetry and the novel. Themes based on reading and class analysis.

2 SOPHOMORE COMPOSITION (3)

Three hours per week.

Prerequisites: English 1a and English 1b.

Practice in writing research and critical papers based upon extensive and intensive reading of literature and related critical works.

4 WORD STUDY (2)

Two hours per week.

Prerequisite: English 1a, or permission of the instructor.

Study of words, their synonyms, antonyms, roots, prefixes and suffixes.

*5 STRUCTURE OF THE ENGLISH LANGUAGE (2)

Two hours per week.

Prerequisite: Eligibility for English 1a or permission of the instructor.

An examination of the English language from the view of both traditional and modern grammatical systems. An introduction to the study of the historical changes in English.

*Day College only.

English (continued)

9a-9b—CREATIVE WRITING (2-2)

Two hours per week.

Prerequisites: 9a—English 1a or permission of the instructor. 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, "Vintage."

12 MYTHOLOGY AND FOLKLORE (3)

Three hours per week.

Prerequisite: Eligibility for English 1a or permission of the instructor.

An introductory survey of myth and folklore, with emphasis on the classical myths.

13 THE BIBLE AS LITERATURE (3)

Three hours per week.

Prerequisite: Eligibility for English 1a or permission of the instructor.

Study of the significant writings of the Old and New Testaments and of the Apocrypha.

21 THE SHORT STORY (2)

Two hours per week.

Prerequisite: Eligibility for English 1a.

Study of short stories. Class discussion and reports; lectures.

***23 INTRODUCTION TO POETRY (3)**

Three hours per week.

Prerequisite: English 1b or permission of the instructor.

Lectures concerning the various elements of and approaches to poetry. Intensive and extensive reading, discussion, critical papers.

24 MODERN DRAMA (3)

Three hours per week.

Prerequisite: Eligibility for English 1a or permission of the instructor.

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.

*Day College only.

English (continued)

25 INTRODUCTION TO SHAKESPEARE (3)

Three hours per week.

Prerequisite: Eligibility for English 1a or permission of the instructor.

Emphasis upon Shakespeare's poetic and dramatic growth as a writer through a study of representative plays and poems. Reading, discussion, critical papers.

26 MODERN NOVEL (3)

Three hours per week.

Prerequisite: English 1a or permission of the instructor.

Study of novels of the late 19th and 20th Century and of various aspects of literary criticism. Reading, discussion and critical papers.

27 CONTEMPORARY LITERATURE (3)

Three hours per week.

Prerequisite: English 1b or permission of the instructor.

A study of selected fiction, poetry and drama of the 20th Century. Lectures, discussions, related reading, writing of critical papers.

30 MAJOR FIGURES IN AMERICAN LITERATURE (3)

Three hours per week.

Prerequisite: English 1b or permission of the instructor.

Study of the writings of some of the major figures in American literature. Intensive reading, lectures, discussion, papers.

***31a AMERICAN LITERATURE (3)**

Three hours per week.

Prerequisite: English 1b or permission of the instructor.

Study of American literature from the beginning through Mark Twain. Lectures; reading, analysis and discussion of selected works; papers.

***31b AMERICAN LITERATURE (3)**

Three hours per week.

Prerequisite: English 1b or permission of the instructor.

Study of American literature since Mark Twain. Lectures; reading, analysis and discussion of selected works; papers.

§39 THE RUSSIAN NOVEL IN TRANSLATION

(See Foreign Languages 39)

*Day College only.

English (continued)

***42a MASTERPIECES OF EUROPEAN LITERATURE (3)**

Three hours per week.

Prerequisite: Eligibility for English 1a or permission of the instructor.

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 MASTERPIECES OF EUROPEAN LITERATURE (3)**

Three hours per week.

Prerequisite: Eligibility for English 1a or permission of the instructor.

Study of various works of European literature from the 17th Century to the present day, with emphasis on European prose writings. Reading, analysis and discussion of selected works; written reports, oral readings and lectures.

***43 AFRO-AMERICAN LITERATURE (3)**

Three hours per week.

Prerequisite: English 1a or English 1a taken concurrently.

A comprehensive survey of Afro-American letters in the United States from 1619 to the present.

***46a SURVEY OF ENGLISH LITERATURE (3)**

Three hours per week.

Prerequisite: English 1b or permission of the instructor.

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 SURVEY OF ENGLISH LITERATURE (3)**

Three hours per week.

Prerequisite: English 1b or permission of the instructor.

Study of the typical works of major English writers of the 19th and 20th Centuries, lectures, discussions, recordings.

Recommended for English majors.

§48 CONTEMPORARY VIEW OF ELIZABETHAN ENGLAND (3)

Six evening lectures (1 unit) and one month's travel and lectures in England (2 units).

Lectures, reading and discussion concerning the politics and social structure of Elizabethan England and of the concept of humanism. Study of three Shakespearean plays and attendance at plays in England. Written evaluation by students.

*Day College only.

English (continued)

***49 SPECIAL PROJECTS (1-2)**

Hours by arrangement.

Prerequisites: Sophomore standing and permission of the Chairman of the English Division.

Students will present a paper or papers dealing with a specific topic in literature or language, a topic beyond the scope of offered courses.

A PREPARATORY COMPOSITION (3)

Three hours per week.

Prerequisite: Eligibility as determined by the English Placement Test.

Training in the principles of composition to help the student achieve the required college freshman ability in writing coherent, intelligent and technically correct essays.

Designed for students seeking eligibility for English 1a. Students receiving a passing grade in English A may enroll in English 1a. Students completing the course may also enroll in English 50b.

50a FUNDAMENTALS OF READING AND WRITING (5)

Five hours per week.

Prerequisite: Eligibility as determined by the English Placement Test.

Reading of short stories, informal essays and books of non-fiction; study of vocabulary and spelling; written exercises, quizzes and compositions; class discussions.

Students completing this course normally take English 50b.

50b READING AND INTERPRETATION (3)

Three hours per week.

Prerequisite: English 50a or English A.

Reading and study of plays, novels, poetry. Vocabulary study. Quizzes and short compositions based upon reading.

***57a-57b ENGLISH AS A SECOND LANGUAGE (5-5)**

Five hours per week.

Prerequisites: 57a—Assignment on basis of a placement test. 57b—English 57a or assignment on basis of a placement test.

Study of English grammar and composition, drill in oral and written vocabulary, sentence structure and English idiom.

*Day College only.
§Evening College only.

English (continued)

61 THE SHORT STORY (2)

Two hours per week.

Study of short stories. Class discussion; lectures.

***62a MASTERPIECES OF EUROPEAN LITERATURE (3)**

Three hours per week.

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.

***62b MASTERPIECES OF EUROPEAN LITERATURE (3)**

Three hours per week.

Study of various works of European literature from the 17th Century to the present day, with emphasis on European prose writings. Reading, analysis and discussion of selected works; written reports; lectures.

***63 AFRO-AMERICAN LITERATURE (3)**

A comprehensive survey of Afro-American letters in the United States from 1619 to the present.

64 VOCABULARY BUILDING (2)

Two hours per week.

Students who have had English 1a may not enroll in this course.

Study of words, their synonyms and antonyms; vocabulary building.

66 SCIENCE FICTION AND FICTION OF FANTASY (3)

Three lecture hours per week.

Study of major themes and methods of science fiction and the fiction of fantasy. Works read will range from ancient to contemporary times.

***67 READING LABORATORY (1)**

Five hours per week for eight weeks.

Individual work on machines such as the Craig Reader, Rateometer, Tachistoscope and Shadowscope with further practice and study in small groups under the direction of the instructor. Training in perceptual skills, vocabulary, speed and comprehension and reference skills.

Recommended for students with reading scores between the 20th and 50th percentile.

May be repeated once for credit.

*Day College only.

English (continued)

68 CONTEMPORARY LITERATURE (3)

Three lecture hours per week.

Study of the main currents of contemporary American, English and Continental literature. Works read will include poetry, novels and plays.

74 PRINCIPLES OF COMEDY (3)

Three lecture hours per week.

Prerequisite: English 1a, or permission of the instructor.

A study of the principles of comedy as expressed in plays and movies. To lead students to understand the comic vision and to read comic plays; to encourage students to attend comic plays and classic comic movies.

75 FILM STUDY: THE CINEMA (2)

One lecture hour 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.

Entomology

Instructor: Mr. Bartges.

*1 GENERAL ENTOMOLOGY (4)

Two lecture hours and two three-hour lab periods per week.

Prerequisite: Sophomore standing (24 units) with one course in the Biological Sciences or consent of the instructor.

Classification, life histories, morphology, physiology and ecology of insects; their comparative and functional relationship and emphasis upon their relationship to man.

Ethnic Studies

*1 INTRODUCTION TO ETHNIC STUDIES (3)

Three lecture hours per week.

The history and role of people of color in the United States. Survey of the social, political, economic and cultural development and contributions of these people from their introduction into the United States until the present day.

*Day College only.

Ethnic Studies (continued)

***3 BROWN AND RED PEOPLES IN THE UNITED STATES (3)**

Three lecture hours per week.

Prerequisite: None. E.S. 1 recommended.

The entrance, growth and development of the Brown and Red peoples in the United States. Their specific contributions in the political, economic and historical growth of America will be explored with emphasis on their achievements and their past, present and future goals.

***6b PATTERNS OF PREJUDICE AND RACISM (3)**

Three lecture hours per week.

Prerequisites: Sophomore standing; Psych. 1a or 10 recommended, or permission of instructor.

The problems of prejudice and racism. Personality development, psychoanalytic theories of prejudice, and racist-oriented trends and patterns will be explored in depth with a consideration of the mythical and factual concepts employed to substantiate prejudice included in discussions and presentations.

***16 SOCIAL DYNAMICS OF PEOPLE OF COLOR (3)**

Three lecture hours per week.

Prerequisite: None. E.S. 1 recommended.

The social structures and institutions of people of color and their growth and development as influenced by the dominant society. The nature of the urban ghetto and slums and the rural ethnic communities will be studied and contrasted. The family structure, political and economic institutions and church will be considered in respect to social stratification and interracial relationships.

Fire Science

The Fire Science Certificate Program is divided into two parts. Fifteen units of course work lead to the basic certificate. An advanced certificate is awarded upon completion of an additional 15 units.

Basic Certificate (15 units)

1. A minimum of 12 of the 15 units must be completed at College of San Mateo.
2. A minimum of 12 of the 15 units must be selected from the Fire Science course listed below.

Advanced Certificate (30 units)

1. A minimum of 24 of the 30 units must be completed at College of San Mateo.
2. A minimum of 24 of the 30 units must be selected from the Fire Science course listed below.

*Day College only.

Fire Science (continued)

The additional units for both the Basic and Advanced Certificates must be selected from the Fire Science curriculum or one of the following:

Public Speaking
Report Writing
Public Relations
Business Law
Human Relations
Political Science

§50 FIRE FIGHTING TACTICS (3)

Study of the facts and probabilities, the fireman's own situation, decision and plan of operation in combatting a variety of conflagrations.

§51a-51b FIRE SCIENCE HYDRAULICS (3-3)

Basic mathematics, principles of hydraulics, calculations of engine and nozzle pressures, discharge, fire streams, friction laws and pumps.

§52 A.I.A. GRADING SCHEDULE (3)

Application of American Insurance Association standards to the various aspects of water supply, fire department, fire alarm, police, building law, hazards and structural conditions.

§53 COMPANY ADMINISTRATION (3)

A study of personnel, company response, maintenance of buildings, assignments, districts, duties and responsibilities of a company officer.

§54 PERSONNEL ADMINISTRATION (3)

Organization and administration of a personnel department; 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)

The philosophy and history of fire protection characteristics and behavior of fire; fire extinguishing agents; fire protection organization and equipment. A brief introduction to the American Insurance Association Grading Schedule and its relation to insurance rates is also considered.

§56 FIRE PREVENTION (3)

Fundamentals of fire prevention techniques, procedures, regulation and enforcement; discussions of hazards in ordinary and special occupancies; organization and functions of fire prevention bureaus.

§61 FIRE DEPARTMENT APPARATUS AND EQUIPMENT (3)

Operation, care and maintenace of fire apparatus and pumps, basic mathematics and hydraulics, effective fire streams, inspection and records.

§Evening College only.

Fire Science (continued)

§62a-62b HAZARDOUS MATERIALS I AND II (3-3)
Review of basic chemistry; storage, handling, laws, standards and fire fighting practices pertaining to hazardous solids, liquids and gases.

§63 BUILDING CONSTRUCTION AND FIRE PROTECTION (3)
Fundamentals of building construction, fundamental code requirements, and the operation and the safety required by the Building Trades.

§64 FIRE PROTECTION EQUIPMENT AND SYSTEMS (3)
Use of portable fire extinguishing equipment; sprinkler systems; protection systems for special hazards; fire alarm and detection systems.

§65 RELATED CODES AND ORDINANCES (3)
Study and familiarization with national, state, and local laws and ordinances which influence the field of fire prevention.

§66 RESCUE PRACTICES (3)
The following topics are included: rescue practices, emergency care of victims, artificial respiration, toxic gases, chemicals and diseases, radioactive hazards, rescue problems and techniques.

§67 FIRE INVESTIGATION I (3)
Introduction to arson and incendiarism, arson laws and type of incendiary fires. The course also deals with the methods of determining fire cause, recognizing and preserving evidence, interviewing and detaining witnesses; procedures in handling juveniles; court procedure and giving court testimony.

Foreign Language

39 THE RUSSIAN NOVEL IN TRANSLATION (3)
Prerequisite: English 1a or permission of the instructor.

Survey of Russian literature from the 19th Century classic period to contemporary Soviet literature. Reading, analysis, and discussion of representative works; lectures, written reports.

No knowledge of Russian required.

§Evening College only.

Forestry

Instructor: Mr. Clemens.

1 INTRODUCTION TO FORESTRY (3)

Three lecture hours per week.

A study of the forest as a biological community; introduction to the scientific and economic basis of forestry including topics from ecology, dendrology, entomology, pathology, silviculture, mensuration, utilization and economics. Careers in forestry.

***6 FORESTRY SURVEYING (3)**

Two lecture and three lab hours per week.

Prerequisite: Geometry or concurrent enrollment in Geometry.

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. Practice in the field of forestry.

French

Instructors: Mrs. Tubb, Mr. Edmundson, Mrs. Beuttler.

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 an integral feature of the study of a foreign language at the College.

***1 ELEMENTARY FRENCH (5)**

Five class hours and 1½ hours recording per week.

Prerequisite: Eligibility for English A or a grade of A or B in English 50a. Exception: Students who have had high school work in French for two or more years with an average grade of C or better will be eligible to enroll in French 1.

Conversation in the language, dictation, reading, study of the fundamentals of grammar and the writing of simple French exercises.

***2 ADVANCED ELEMENTARY FRENCH (5)**

Five class hours and two hours listening or recording per week.

Prerequisite: Completion on the college level of the first semester with a passing grade or assignment by the Foreign Language Division on the basis of the Foreign Language Placement Test in French. (It is inadvisable for a student who has received a semester grade of D in French 1 to continue into French 2.)

Conversation, dictation, further study of grammar and sentence structure; study of cognates, derivatives and idioms, reading of short stories.

*Day College only.

French (continued)

***3 INTERMEDIATE FRENCH (5)**

Five class hours and two hours listening or recording per week.

Prerequisite: Completion on the college level of the first two semesters with a passing grade or assignment by the Foreign Language Division on the basis of the Foreign Language Placement Test in French.

Reading of short stories, plays or novels; review of grammar, conversation, composition, dictation.

***4 ADVANCED INTERMEDIATE FRENCH (3)**

Three class hours and two hours listening or recording per week.

Prerequisite: Completion on the college level of the third semester with a passing grade or assignment by the Foreign Language Division on the basis of the Foreign Language Placement Test in French.

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-8b FRENCH CONVERSATION (2-2)**

Two class hours and two hours recording per week.

Prerequisite: French 4, or French 3 with a grade of A or A— and concurrent enrollment in French 4. (Native speakers are ineligible.)

Practice in conversation based on French customs and culture.

***25a-25b ADVANCED FRENCH (3-3)**

Three class hours and two hours listening or recording per week.

Prerequisites: 25a—Completion of the fourth semester with a passing grade or assignment by the Foreign Language Division on the basis of the Foreign Language Placement Test in French. 25b—French 25a.

Reading and discussion of works of French literature. Continued review of principles of grammar.

***30 INDIVIDUAL READING (1-2)**

Conference periods for oral reports. Time to be arranged. A minimum of three hours of reading per each unit of credit is required weekly.

Prerequisites: French 4, permission of instructor, and concurrent enrollment in or completion of French 25a or 25b.

Reading of French classics, contemporary literature or recent periodicals.

*Day College only.

French (continued)

§100a CONVERSATIONAL FRENCH, ELEMENTARY (2)

Three class hours per week.

A practical course in the French language approach 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.

This course will not fulfill language requirement at California State Colleges or at the University of California.

§100b CONVERSATIONAL FRENCH, ADVANCED ELEMENTARY (2)

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 requirement at California State Colleges or at the University of California.

§100c CONVERSATIONAL FRENCH, INTERMEDIATE (2)

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 requirement at California State Colleges or at the University of California.

Geography

Instructor: Mr. Weintraub.

1a PHYSICAL GEOGRAPHY (3)

Day College: four hours per week for lecture, discussion and demonstration.

Evening College: three hours per week plus one or two Saturday field trips.

Basic characteristics of maps, the earth's grid, seasons, time, weather and climate, land forms, soil, oceans, natural vegetation and the interrelationship of all these basic factors. Maps and the regional concept are the primary tools for this study.

1b CULTURAL GEOGRAPHY (3)

Three hours per week for lecture, discussion and demonstration.

By using maps and the concept of regions, this course attempts to show and describe the areal distribution of the most important parts of man's culture. Emphasis is placed on the way he makes a living. Consideration is also given to the origin and development of man, population distribution and settlement patterns.

§Evening College only.

Geography (continued)

4 ECONOMIC GEOGRAPHY (3)

Three hours per week for lecture, discussion and demonstration.

In part, an investigation and description of the basic resources in the different parts of the world. Also, an attempt will be made to evaluate the effects of different cultural and physical environments upon the utilization of these resources. More specifically, this course will deal with the products of the various agricultural areas of the world, the mineral resources, industry, transportation, communication and power production.

***5a WORLD REGIONAL GEOGRAPHY (3)**

Three hours per week for lecture, discussion and demonstration.

A series of regional studies covering North and South America.

***5b WORLD REGIONAL GEOGRAPHY (3)**

Three hours per week for lecture, discussion and demonstration.

A series of regional studies covering Europe, Asia and Africa.

99 HISTORICAL GEOGRAPHY (3)

Three lecture hours per week.

Prerequisite: Eligibility determined by counselor.

Analysis of selected problems from the historical geography of the United States. Emphasis is on discussion groups and the completion of assigned projects. Extensive use of audio-visual materials.

May be substituted for either History 17a or 17b in partial fulfillment of graduation requirements.

Geology

Instructors: Mr. Glen, Mr. Zones.

Each course in Geology is accepted by the University of California in partial satisfaction of the 12 units required in Natural Science. Geology 1a is for science majors; Geology 10 is for non-science majors.

***1a GENERAL GEOLOGY: DYNAMICAL AND STRUCTURAL (4)**

Not open to students who are taking Geology 10.

Three lecture hours and one three-hour lab period weekly.

Recommended: Elementary Chemistry.

An introduction to the nature and structure of the materials composing the earth and of the various processes which shape the earth's surface.

*Day College only.

Geology (continued)

***1b HISTORICAL GEOLOGY (4)**

Three lecture hours and one three-hour lab period weekly.

Prerequisite: Geology 1a or Geology 10.

Geological history of the earth and the evolution of its animal and plant inhabitants.

10 SURVEY OF GEOLOGY (3)

Not open to students who have taken or are taking Geology 1a.

Day College: three lecture hours and one section meeting weekly.
Evening College: three hours per week plus one or two Saturday field trips.

Introduction to the scientific method and history of geology. 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.

***49 SPECIAL PROBLEMS (1-2)**

Admission only by consent of the instructor. Hours to be arranged on an individual basis.

Prerequisite: Geology 1a or 1b or Paleontology 1 or Mineralogy 6.

Field and/or lab and/or library studies centered in a geologic, paleontologic or mineralogic problem of interest to the student.

German

Instructor: Mr. Cordes.

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 an integral feature of the study of a foreign language at the College.

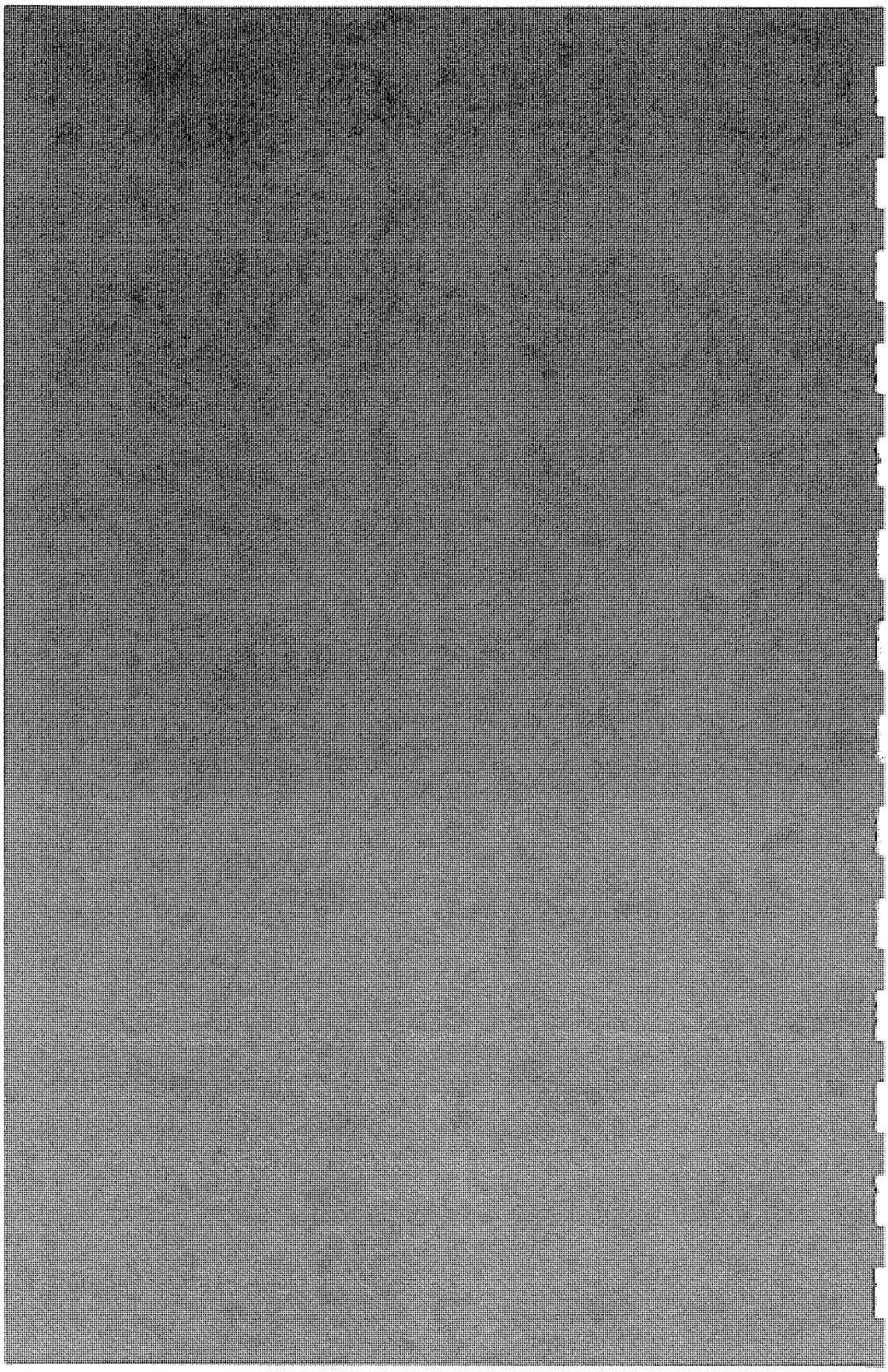
***1 ELEMENTARY GERMAN (5)**

Five class hours and 2½ hours listening or recording per week.

Prerequisite: Eligibility for English A or a grade of A or B in English 50a. Exception: Students who have had high school work in German for two or more years with an average grade of C or better will be eligible to enroll in German 1.

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.

*Day College only.



German (continued)

***2 ADVANCED ELEMENTARY GERMAN (5)**

Five class hours and 2½ hours listening or recording per week.

Prerequisite: German 1 with a passing grade or assignment by the Foreign Language Division on the basis of the Foreign Language Placement Test in German.

(It is inadvisable for a student who has received a semester grade of D in German 1 to continue into German 2.)

A 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.)

***3 INTERMEDIATE GERMAN (5)**

Five class hours and 1½ hours listening or recording per week.

Prerequisite: German 2 with a passing grade or assignment by the Foreign Language Division 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.

***4 ADVANCED INTERMEDIATE GERMAN (3)**

Three class hours and one hour listening per week.

Prerequisite: German 3 with a passing grade or assignment by the Foreign Language Division on the basis of the Foreign Language 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 GERMAN CONVERSATIONS (2-2)**

Two class hours per week.

Prerequisite: German 3, or German 2 with grade of B or better and permission of the instructor. (Not open to native speakers.)

Conversation based upon German customs, manners, mores, history, newspapers, periodicals, plays and short stories.

***25a-25b ADVANCED GERMAN (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.

*Day College only.

German (continued)

***30 INDIVIDUAL READING (1-2)**

One conference period per week or oral report.

Prerequisite: Permission of the instructor after 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.

§100a CONVERSATIONAL GERMAN, ELEMENTARY (2)

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.

This course will not fulfill language requirement at California State Colleges or at the University of California.

§100b CONVERSATIONAL GERMAN, ADVANCED ELEMENTARY (2)

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.

Guidance

Instructors: Mr. Shinn, Mr. Howe, Mrs. Fountain.

***2 STUDY SKILLS (1)**

Five lab hours per week for eight weeks.

Repeatable for credit.

Instruction and practice in study skills. Application of these skills and study techniques will be to the student's own course work.

***10 INTRODUCTION TO COLLEGE (2)**

Two hours a week.

Open to all students but strongly recommended for entering freshmen students enrolled in general courses with an "undecided" major, or for students who desire to verify their vocational and educational choice.

Acquaintance with campus facilities and activities, improvements of study habits and basic skills needed in college subjects, educational planning for ultimate vocational goal. Self-appraisal by means of tests measuring potential abilities, interests, aptitudes and past achievement as well as personal, emotional and social adjustment.

*Day College only.
§Evening College only.

Health Education

Instructors: Mr. Fishback, Mr. Innis.

1 GENERAL HEALTH EDUCATION (2)

Two class hours per week.

Required of all candidates for graduation.

Elements of human anatomy, physiology, nutrition and chemistry are applied toward an understanding of common human problems such as cancer, heart disease, mental illness and many others. Contemplated experiences in social development and marriage are explored. Recent findings are presented to illustrate the relationship between nutrition, exercise and good health.

§4 FIRST AID (1)

Two hours per week for eight weeks.

Required of all candidates for graduation who do not hold standard Red Cross certificates, not required of those who have graduated from a California high school since 1952.

Instruction in the immediate, temporary treatment given in case of accident or sudden illness before the services of a physician can be secured.

History

Instructors: Mr. Tory, Mr. Lapp, Mr. Andrews, Mr. Haight, Mr. Brown, Mr. Ross, Mr. Jeppson, Mr. Brusin, Mr. Cooke, Mr. Wagner, Mr. Clark, Mr. Acena, Mr. Hynding, Miss Linder, Mrs. Lee, Mr. Miller, Mr. Mantabe.

4a HISTORY OF WESTERN CIVILIZATION (3)

Three 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 HISTORY OF WESTERN CIVILIZATION (3)

Three hours per week.

Prerequisite: None. History 4a is recommended.

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.

§Evening College only.

History (continued)

***4c HISTORY OF AMERICAN CIVILIZATION (3)**

Three hours per week.

Prerequisite: History 4a, or consent of instructor.

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) may be substituted in lieu of History 17a-17b or Political Science 21 in fulfilling graduation requirements.

5 HISTORY OF ENGLAND (3)

Three lecture hours per week.

A survey, including in its scope the more important political, constitutional, economic, social and cultural phases of the history of the English people.

This course, though especially designed for pre-Legal and English majors, is also of great value to the general student interested in international relations or the background of American culture.

***6a AFRICAN CIVILIZATIONS (3)**

Three lecture hours per week.

Will deal with 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 AFRICAN CIVILIZATIONS (3)**

Three lecture hours per week.

Will deal with 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 HISTORY OF AMERICAS (3)**

Two hours of lecture and one hour of class discussion per week.

A 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.

*Day College only.

History (continued)

*8b HISTORY OF AMERICAS (3)

Two hours of lecture and one hour of class discussion per week.

Prerequisite: None. History 8a is recommended.

A general survey of the history of North and South America, from about 1830 until the present. Emphasis is placed upon the larger countries of the Western Hemisphere, and also upon the development during the crucial period which began with the outbreak of World War II and has continued until contemporary times.

11 ECONOMIC HISTORY OF THE UNITED STATES (3)

Three hours per week.

Prerequisite: None. Economics 1a and 1b are recommended.

The 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.

This course is identical to Economics 11.

12 ECONOMIC HISTORY OF EUROPE (3)

Three hours per week.

Prerequisite: None. Economics 1a and 1b are recommended.

The roots of modern economic society will be traced to their European origins. The rise of mercantilism, the market system, modern industrialism will be sketched against the ancient and medieval background. Attention will be given to 20th Century interwar and postwar developments, including recent movements toward European economic union.

This course is identical to Economics 12.

17a AMERICAN HISTORY (3)

Three hours per week.

A survey of English colonialization 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.

*Day College only.

History (continued)

17b AMERICAN HISTORY (3)

Three hours per week.

Prerequisite: None. History 17a is recommended.

The course 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) may be substituted in lieu of Polit. Sci. 21, in fulfilling graduation requirements.

***20a-b TWENTIETH CENTURY EUROPE (3-3)**

Three lecture hours per week.

History 20a will begin in 1870, the year of the unification of Germany and Italy—the events which ushered in the present period of European history. Covering social and intellectual, as well as political and military affairs, course 20a will proceed through World War I to the settlements of 1919. History 20b will deal with Europe after the first World War. The brief optimism of the 1920's will be followed by the slide into depression and another war. The story of Europe after World War II will receive much attention.

§22 CALIFORNIA HISTORY (3)

Three lecture hours per week.

The story of Spanish, Mexican and American pioneers who in less than 200 years made California what it is today.

History 22 satisfies the requirement for one semester hour in California State and Local Government.

***23a CALIFORNIA HISTORY (2)**

Two class hours per week.

The story of the Spanish, Mexican and early American heritage of pre-Gold Rush California. This semester dwells on Spanish imperial problems, California-directed explorations and the California missions.

***23b CALIFORNIA HISTORY (2)**

Two class hours per week.

Prerequisite: None. History 23a is recommended.

The Gold Rush and its impact on 19th Century California. This semester emphasizes the political, social and economic background of modern California.

Satisfies the requirement for one semester hour in State and Local Government.

*Day College only.
§Evening College only.

History (continued)

***24 AMERICAN FOREIGN POLICY (3)**

Three hours per week.

An historical inquiry into the background of major problems in foreign policy of our own day. Special attention is given to the period since World War II.

***25 THE AMERICAN WEST (3)**

Three hours per week.

Prerequisite: None. History 17a is recommended.

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.

***26 U. S.: 20TH CENTURY AMERICAN HISTORY (3)**

Three lecture hours per week.

Major economic, political, social and intellectual developments since the United States emerged as a major power at the turn of the century.

33 THE AFRO-AMERICAN IN U.S. HISTORY (3)

Three hours per week.

Prerequisite: None, but History 17a is strongly recommended.

Social, economic and political facts as they relate to the Afro-American. Race relations will be analyzed and special emphasis will be given the history of the Afro-American.

***34a-b AFRO-AMERICAN HISTORY (3-3)**

Three lecture hours per week.

Prerequisite: History 17a or 17b recommended, preferably both, or History 33.

34a — The chronology of the history of Afro-Americans from the age of discovery to the present. All relevant social, economic and political elements will be dealt with. The development of the racist elements in North American culture will be studied as it bears on the Afro-Americans.

34b — Takes the student to the present from the period after 1865.

***35 CIVIL WAR AND RECONSTRUCTION (3)**

Three lecture hours per week.

Prerequisite: History 17a or consent of instructor.

A survey and analysis of the political, social and economic problems of the North and South during the ante-bellum, Civil War and Reconstruction eras.

*Day College only.

History (continued)

44 HISTORY OF THE FAR EAST (3)

Three hours per week.

An 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 is a central theme of the course. An analysis will be made of contemporary trends and problems with particular reference to China and Japan. The historical developments of India, Pakistan and the countries of Southeast Asia will also be considered.

*45 HISTORY OF MODERN RUSSIA (3)

Three hours per week.

A careful analysis of the development of Russia from a loose federation of city states into an autocratic nation, and finally into the modern Soviet state. Approximately one-third of the course will be devoted to the political, economic and cultural development of 20th Century Russia.

*49 SPECIAL PROJECTS (1-2)

Prerequisite: Consent of the instructor and Social Science Division chairman.

Students will prepare a paper on a specific topic or complete a course of directed reading and a written report.

§50a-50b CURRENT WORLD AFFAIRS (3-3)

Three hours per week.

A course designed to achieve a deeper understanding of current happenings through analysis of their geographic and historical context, and their relation to worldwide developments.

99 HISTORICAL GEOGRAPHY (3)

Three hours per week.

Prerequisite: Eligibility determined by counselor.

Analysis of selected problems from the historical geography of the United States. Emphasis is on discussion groups and the completion of assigned projects. Extensive use of audio-visual materials.

May be substituted for either History 17a or History 17b in partial fulfillment of graduation requirements.

*Day College only.
§Evening College only.

Home Economics

Instructors: Mrs. Ireson, Mrs. Ladendorff, Mrs. Tunnell, Mrs. Donne.

***1a-1b FOODS (3-3)**

One two-hour lecture, one three-hour lab period per week.

Prerequisite: 1a—None; 1b—Home Econ. 1a.

Principles of food preparation, marketing, storage and preservation. The second semester is devoted to the planning, preparation and service of meals. Emphasis is also given to kitchen equipment and organization, quick meals, economical meals and foreign cookery.

***5 INTRODUCTION TO HOME ECONOMICS (1)**

One lecture hour per week.

Introduction to the range of subject matter to be selected in two- and four-year programs. Relationship of art and science courses to the Home Economics curriculum. An exploration of the opportunities, career goals and responsibilities of the home economist.

***9 NUTRITION (2)**

Two one-hour lectures.

Basic concepts of nutrition and their relationship to health of people of all ages with application to the selection of foods to meet nutritional need of the individual.

***20a-20b CLOTHING (3-3)**

Two three-hour lecture-lab periods per week.

Prerequisite: 20a—none; 20b—Home Econ. 20a or three years of high school Clothing Construction.

Principles of clothing construction using custom techniques. Emphasis on selection of fabrics, pattern alteration and fitting. The second semester is devoted to custom construction techniques, and principles of design and color in selection of clothing to express individual personality and excellence of taste.

***22 TEXTILES (3)**

Three lecture hours per week.

Study of natural and chemical fibers; yarns and fabric construction and finishes. Care, cost and labelling as related to consumer use.

***24 CLOTHING SELECTION (2)**

Two lecture hours per week.

Coordinating costume and accessories to the individual by use of principles of design and color which do not change with styles and fashions and are applicable to all budgetary levels. Of special interest to those preparing for professional work.

*Day College only.

Home Economics (continued)

***26 CREATIVE CLOTHING DESIGN AND CONSTRUCTION (2)**

Two lecture hours per week.

Prerequisite: Home Econ. 20b.

The construction and use of flat patterns and draping as methods of creating a chosen design for the indivdual with consideration of fabric performance.

***26L CREATIVE CLOTHING DESIGN AND CONSTRUCTION (1)**

Three lab hours per week.

Prerequisites: Home Econ. 20b and concurrent enrollment in Home Econ. 26.

Designed as an optional lab period to accompany Home Econ. 26.

***28 FASHION AND THE CONSUMER (3)**

Three lecture hours per week.

A consideration of the clothing needs of the various groups and of many forces (economic, sociological, psychological and technological) which influence the consumer and the clothing market.

***30 FASHION MERCHANDISING (4)**

Four lecture hours per week.

Prerequisite: Home Econ. 28.

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.

***32 FASHION COORDINATING AND DISPLAY (3)**

Three lecture hours per week.

Prerequisite: Home Econ. 30.

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.

***37 DEMONSTRATION TECHNIQUES (2)**

Two lecture hours per week.

Prerequisite: Home Econ. 1a or 20a, or permission of instructor.

Development of techniques for demonstrating fabrics, home equipment, clothing, foods and other subjects of promotional and educational use in women's world of work.

***40 HOME FURNISHINGS (3)**

Two lecture hours and three lab hours per week.

Selection of furniture, floor coverings and materials from an artistic and practical standpoint. Construction of draperies, bedspreads and slip covers.

*Day College only.

Home Economics (continued)

***50a NUTRITION (1) (For LVN Program)**

The basic principles involved in good nutrition. Integrated with the course in Medical and Surgical Nursing according to the body system under study. An opportunity for the student to increase her knowledge and understanding of the importance of diet in health and disease.

52 NUTRITION AND GOURMET FOODS (2)

One two-hour lecture-demonstration.

Planning, selection and preparation of foods for meals for optimum health.

An introductory course not open to Home Economics majors; 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. It will provide a knowledge of the relevant arts, crafts and trades and how they are utilized.

§65a-65b CLOTHING CONSTRUCTION (1-1)

Prerequisite: 65a—None; 65b—Home Econ. 65a.

Individual color analyses; design and fabric identification, pattern selection and adjustment, fundamental principles of clothing construction, remodeling and mending.

§66a-66b CLOTHING CONSTRUCTION (1-1)

Prerequisite: Home Econ. 65b, or consent of the instructor.

Custom techniques and finishes; underlinings, interfacings, and linings; emphasis on compatibility of design and fabric for the individual.

§67a-67b CLOTHING CONSTRUCTION, ADVANCED (1-1)

Prerequisite: Home Econ. 66b, or consent of the instructor.

Advanced techniques, custom details, suits and coats, with emphasis on original design.

Note: For additional courses which apply to the Associate in Arts degree with a major in Home Economics see the following: Bus. 35—Personal and Family Finance; Psych. 4—Courtship, Marriage, and the Family; Art 68a-68b—Interior Design; Anthro. 2—Cultural Anthropology; Arch. 10—Survey of Contemporary Architecture.

*Day College only.
§Evening College only.

Horticulture (Ornamental)

Instructor: Mr. Graham.

The College offers certificate programs in both Ornamental Horticulture and Vocational Gardening based upon a combination of certain required and elective courses and concurrent practical experience in either field. Credits earned may also be applied toward the Associate in Arts degree. It is possible to enroll in individual classes without regard to the certificate program. For further details, consult the Horticulture brochures available at the Evening College office.

§90a-90b PEST CONTROL: HORTICULTURE ENTOMOLOGY (2-2)

Three hours per week.

Prerequisite: 90a—None; 90b—Hort. 90a.

This course is designed for professionals employed in ornamental horticulture.
A 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 hours per week.

Prerequisite: 90c—None; 90d—Hort. 90c.

A study of the common disease-causing fungi, bacteria, physiological, nematode and virus pests which attack horticultural plants in the Bay Area. Identification, classification, life cycles and the latest methods of control.

§90e PEST CONTROL: INSECTICIDES, FUNGICIDES, EQUIPMENT (2)

Three hours per week.

History and development of pesticides, pest control equipment, insecticides, fungicides, disinfectants and nematicides. Soil fumigants, composition, formulation, uses, compatibilities. California Agricultural Code and pest-control operator's license examination.

§90f PEST CONTROL: WEEDS AND RODENTS (2)

Three 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 animal pests of landscaped areas, and control methods.

§91a-91b GENERAL ORNAMENTAL HORTICULTURE (2-2)

Three hours per week.

This course is designed to give the student a wide concept of the field of ornamental horticulture. Soils, manures and fertilizers, lawn establishment and turf management. Plant propagation, pruning, choice of plant tools and machinery, insecticides, fungicides and weedkillers.

§Evening College only.

Horticulture (Ornamental—continued)

§93 HORTICULTURE SOILS AND PLANT GROWING (2)

Three hours per week.

Fundamental principles of soils, soil management, fertility and plant nutrition. Soil types, origins, characteristics; soil organic matter, biological relationships. Commercial and natural fertilizers and amendments; soil structure and conditioners; soil moisture, movement, percolation, irrigation and drainage; sprinkler and irrigation principles; installation, management.

§94 PLANT PROPAGATION AND NURSERY PRACTICE (2)

Three 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 HORTICULTURE BOTANY AND PLANT MATERIALS (2-2)

Three hours per week.

The principles of plant classification, description, nomenclature, morphology, use of keys. Photosynthesis, transpiration, osmosis, mendelism, floral families. The study in class of plants commonly used in California parks and gardens. Emphasis on plant identification.

§96a-96b LANDSCAPE GARDENING (2-2)

Three hours per week.

Principles of garden design and construction with emphasis on aesthetics and minimum maintenance. Draftsmanship, circulations, layout and perspective. Estimates and bills of quantity. Preparation of simple home ground landscape plans. Visits to outstanding landscaping.

§97a-97b ARBORICULTURE, SHRUBS AND FRUIT (2-2)

Three hours per week.

Principles and practices of selecting and training trees, shubs and conifers for their aesthetic value. Emphasis on identification, planting, pruning, choice of site and cultural requirements. The training and management of fruit trees. Rootstocks, pruning, spraying, irrigation, pest and disease control, pollination and marketing.

§98a-98b GLASSHOUSE MANAGEMENT AND CROPS (2-2)

Three hours per week.

Study of greenhouses and lathhouses, and the materials used in their construction. Interior layouts. Ventilation, humidity and temperature control. The propagation and culture of roses, carnations, chrysanthemums, orchids, pot plants and other glasshouse crops. Pest and disease control.

§Evening College only.

Horticulture (Ornamental—continued)

***110a-b PLANTS AND LANDSCAPE (3-3)**

Two lecture hours and three lab hours per week.

Growth habits, cultural requirements and landscape uses of ornamental shrubs, vines, ground covers and trees adapted to the climates of California. Proper planting and maintenance techniques.

***111 LANDSCAPE MAINTENANCE AND EQUIPMENT (3)**

Two lecture hours 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 covers. Operation of landscape maintenance equipment.

***112 PLANT GROWING (3)**

Two lecture hours 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; organic materials; water relationships; and the compositions, value, selection, use and application techniques of fertilizer materials and soil amendments. Practical experience in growing plants in the greenhouse.

***113 LANDSCAPE CONSTRUCTION AND EQUIPMENT (3)**

Two lecture hours and three lab hours per week.

Planting and construction techniques; cost finding and estimating for the landscape trades, including contract writing and legal aspects of contracting.
Prepares students to pass the Landscape Contractor's License Examination (C27).

***114 INSECTS, WEEDS, DISEASES AND RODENT CONTROL (3)**

Two lecture hours 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.

§130a-130b VOCATIONAL BOTANY AND PLANT MATERIALS (1-1)

Three hours per week.

The principles of plant classification and nomenclature. The study of plant morphology, stems, roots, leaves and flowers. Osmosis, photosynthesis, transpiration and respiration. Floral families. The identification of plant materials used in California gardens and landscaping. Lists of plants for various situations.

*Day College only.
§Evening College only.

Horticulture (Ornamental—continued)

§132a-132b GENERAL VOCATIONAL GARDENING (1-1)

Three hours per week.

The study of gardening in California. Soils, manures, fertilizers and amendments. Plant propagation. Turf management. Pruning and maintenance of trees and shrubs. Perennials, herbaceous perennials, annuals and biennials. Horticultural machines and tools. Insecticides and fungicides.

§135a-135b VOCATIONAL LANDSCAPE GARDENING (1-1)

Three hours per week.

Basic principles of landscape design, construction and estimating. Preparation of simple plans and layouts. Visits to outstanding landscaping.

Italian

§100a CONVERSATIONAL ITALIAN, ELEMENTARY (2)

Three hours per week.

A practical course in the Italian 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.

This course will not fulfill language requirement at California State Colleges or at the University of California.

§100b CONVERSATIONAL ITALIAN, ADVANCED ELEMENTARY (2)

Three 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.

§100c CONVERSATIONAL ITALIAN, INTERMEDIATE (2)

Three 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.

§Evening College only.

Journalism

Instructors: Mr. Alexandre, Mr. Cohn.

***1 INTRODUCTION TO JOURNALISM (3)**

Three lecture hours per week.

Prerequisite: Eligibility for English A.

A study of the historical background and modern functioning of the press (newspaper, radio, magazine, television) in a democratic society, and the virtues 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 hours and two lab hours per week.

Prerequisites: Journalism 1 and eligibility for English 1a.

A study of the techniques of news gathering, judging news values, and of writing the news story. For practical experience, the students write for the college paper, "The San Matean," thus preparing them for future newspaper work.

***3 ADVANCED NEWSWRITING (3)**

Two lecture hours and two lab hours per week.

Prerequisite: Journalism 2.

A continuation of Journalism 2 with emphasis on detailed methods of and techniques for gathering and writing news. Practice in writing more complex and special story types. Individual writing conferences.

***15 NEWSPAPER PRODUCTION (2)**

Four hours per week.

Prerequisites: Journalism 2 (may be taken simultaneously) and permission of instructor.

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 hours per week.

Prerequisite: Eligibility for English 1a and permission of instructor.

Production of the student magazine, "Vintage." Discussion of techniques of publishing and production especially applied to school publications.

***49 SPECIAL PROJECTS (1-2)**

Hours by arrangement.

Prerequisites: Sophomore standing and permission of the Chairman of the English Division.

Students will investigate a topic of journalism beyond the scope of present courses and present it in a form applicable to newspaper production.

*Day College only.

Journalism (continued)

***50 NEWSPAPER PRODUCTION (1)**

Two hours per week.

Prerequisite: Permission of instructor.

Production of the student newspaper, "The San Matean." Discussion and criticism of staff organization and newspaper content.
May be repeated for credit.

Law

(See Business and Business Administration)

Library Technology

Upon completion of 24 semester units, a student may be awarded a certificate as a Library Technical Assistant. For complete details, consult the Library Technician program brochure available at the Evening College office.

§51 INTRODUCTION TO LIBRARY TECHNOLOGY (3)

Three hours per week.

Introduces the student 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. Emphasis is placed on library terminology and human relations in library work.

§52 LIBRARY TECHNICAL PROCESSES (3)

Three hours per week.

Students will be introduced to acquisition work for books, periodicals, documents and recordings; processing of these materials from receipt to shelving and preparation of material for binding will be discussed. Documents, report literature and special materials handling will be part of the course.

§53 ELEMENTARY CATALOGING PROCEDURES (3)

Three hours per week.

Prerequisite: Library Tech. 51 and typing ability equivalent to at least one year of typing.

Examines the card catalog, and its organization and function. Special attention to filing and to typing headings on cards. Book catalogs will be discussed, as well as the two major classification systems, with the resulting cataloging of some fiction and biography.

*Day College only.
§Evening College only.

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Library Technology (continued)

§54 PUBLIC SERVICES (3)

Three hours per week.

Prerequisite: Library Tech. 51, or consent of the instructor.

Circulation procedures—manual and automated—for books, periodicals, pamphlets, documents and recordings will be discussed. Reserve collections will be studied, and elementary examination of reference tools and services. Emphasis will be placed on employee-patron relationships and the philosophy of service.

§55 NON-BOOK MATERIALS (3)

Three hours per week.

Introduces the student 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 will be taught.

Life Science

Instructors: Mr. Williamson, Mr. Curren, Mr. Williams, Mrs. Baker.

10 INTRODUCTION TO THE LIFE SCIENCES (3)

Three lecture hours per week.

Open to all students except those who are currently enrolled in or have completed a college course in the Life Sciences or Anthropology 1. Designed for education majors. Complementary to Physical Science 10.

A study of the nature of the physical and chemical aspects of life, the concepts of cellular biology, life as it exists on earth today, plant and animal interrelationships and interdependencies, and man's role in the world of living things.

Machine Tools Technology

Instructors: Mr. Owen, Mr. Coulson, Mr. Martin.

***51 APPLIED MACHINE SHOP MATHEMATICS (3)**

Three lecture hours per week.

Areas, volumes, logarithmic calculations, slide rule calculation, weight, fundamentals of algebra, calculation of irregular areas and volumes.

*Day College only.
§Evening College only.

Machine Tools Technology (continued)

***52 ELEMENTARY MACHINE SHOP THEORY (5)**

Five lecture hours per week.

Prerequisite: Concurrent enrollment in M.T.T. 52L.

Basic theory of operation of the six fundamental machine processes of turning, drilling, shaping, grinding, and the care and use of measuring instruments and tools. Mathematics: Areas, volumes, weights, geometry. Machine shop calculations, including fundamentals of trigonometry.

***52L ELEMENTARY MACHINE SHOP PRACTICE (4)**

Four three-hour periods per week.

Prerequisite: Concurrent enrollment in M.T.T. 52.

Manipulation of basic machine tools. Designed to accomplish operation skills with prescribed projects. Covers the six fundamental machining processes of drilling, turning, shaping, planing, grinding, use and care of measuring instruments and tools.

***53 INTERMEDIATE MACHINE SHOP THEORY (5)**

Five lecture hours per week.

Prerequisites: M.T.T. 52, 52L and concurrent enrollment in M.T. 53L.

Increased instruction and emphasis on the theory of operation of the six machine processes of turning, drilling, shaping, grinding, and use and care of measuring instruments and tools. Continuation of mathematics as described under M.T.T. 52.

***53L INTERMEDIATE MACHINE SHOP PRACTICE (4)**

Four three-hour periods per week.

Prerequisites: M.T.T. 52, 52L and concurrent enrollment in M.T.T. 53.

Processes of milling machine operation, including gear cutting, straight and angular milling; lathe work, including thread cutting, taper turning and the machining of gear blanks; surface grinding.

***62 ADVANCED MACHINE SHOP THEORY (3)**

Three lecture hours per week.

Prerequisite: M.T.T. 53.

Theory in lathe work, internal thread cutting, internal and cylindrical grinding, surface grinder operations, straight and angular grinding, milling machine practices including spur and level gear cutting.

*Day College only.

Machine Tools Technology (continued)

***62L ADVANCED MACHINE SHOP PRACTICE (5)**

Five three-hour periods per week.

Prerequisite: Concurrent enrollment in M.T.T. 62.

Lathe work, internal thread cutting, internal and cylindrical grinding, surface grinder operations, straight and angular grinding, milling machine practice including gear cutting.

***63 TOOL AND DIE TECHNOLOGY THEORY (3)**

Three lecture hours per week.

Prerequisites: M.T.T. 62, 62L.

Fundamentals of tool and die manufacture with emphasis on die design and power press nomenclature, safety, power press, die sets, die component terminology, elementary die construction theory, and principles of progressive and compound dies.

***63L TOOL AND DIE TECHNOLOGY PRACTICE (5)**

Five three-hour periods per week.

Prerequisites: M.T.T. 52, 52L and concurrent enrollment in M.T.T. 63.

Fundamental practice in the design and manufacture of die sets, blanking and piercing operations, bending, deforming and shearing operations.

§101 APPLIED MACHINE SHOP MATHEMATICS (3)

Three lecture hours per week.

Prerequisites: Two years of high school work in Algebra, Geometry and Trigonometry desirable.

Areas, volumes, logarithmic calculations, slide rule calculations, weight. Fundamentals of algebra through quadratics, calculations of irregular areas and volumes, use of plane trigonometry.

§102a-102b MACHINE SHOP THEORY AND PRACTICE (3-3)

Two one-hour lecture periods and two 1½-hour lab periods per week.

Prerequisite: 102a—None; 102b—M.T.T. 102a.

Theory and operation of the six fundamental machine processes of turning, drilling, shaping, planing and grinding, and the care and use of measuring tools.

§110—ARITHMETIC FOR NC PARTS PROGRAMMERS (2)

Three hours per week.

A refresher course in basic arithmetic in which no assumptions are made as to understanding of arithmetic.

*Day College only.
§Evening College only.

Machine Tools Technology (continued)

§120 ELEMENTS OF AUTOMATION (2)

Three hours per week.

Non-mathematical treatment of principal segments of automation and continuation of mathematics review for numerical control.

§122a-122b TOOL AND DIE THEORY (3-3)

Three lecture hours per week.

Prerequisites: Satisfactory completion of M.T.T. 102a-b, or consent of the instructor.

The theory of production tools, including the construction of shearing, forming, and progressive dies. The main emphasis is in the actual fabrication of tools and the production of the components made with the dies.

§130 COORDINATE MATHEMATICS FOR NC PARTS PROGRAMMERS (2)

Three hours per week.

Prerequisite: Satisfactory completion of M.T.T. 120, or consent of the instructor.

A course to develop skill in enough algebra, plane geometry and plane trigonometry to enable the student to calculate the coordinates of any point on a part or print.

§140 INTRODUCTION TO MANUAL NC PARTS PROGRAMMING (2)

Three hours per week.

Prerequisite: Satisfactory completion of M.T.T. 130, or consent of the instructor.

Actual training in programming NC tools. Concentrates on point to point machine tools with some exposure to contouring.

§150 ADVANCED MANUAL NC PARTS PROGRAMMING (2)

Three hours per week.

Prerequisite: Satisfactory completion of M.T.T. 140, or consent of the instructor.

Skill development in programming two-, three- and four-axis NC milling machines in point to point and contouring (profiling).

§160 COMPUTERIZED NC PARTS PROGRAMMING (2)

Three hours per week.

Initial experience in using computers to create center-line programs and post processed programs from computer program languages. Includes APT and others. Intended to enable students to gain sufficient proficiency to qualify for positions as parts programmers capable of using such languages as APT.

§Evening College only.

Management

A planned series of courses are offered by the College leading to certificate in Business Management. Although a plan considered complete in itself, credits earned may be applied toward the Associate in Arts degree. Twenty units or more in the Management Program will satisfy the major requirements for the Associate in Arts degree. The certificate program is based upon 24 units in eight courses. For complete details, consult the Management brochure available at the Evening College office.

§50 FINANCIAL ANALYSIS (3)

Three hours per week.

(Bus. 1a and 1b may be substituted.)

A general survey of accounting principles and practices, emphasizing the interpretation of accounting data and financial statements as management tools. The basic concepts of both general accounting and cost accounting are developed during the first two-thirds of the course. The topics are budgetary control, financial statement interpretation, limitations of accounting. Other phases of management systems are considered during the remainder of the time.

§52 REPORT WRITING (3)

Three 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 MANAGENMENT COMMUNICATIONS (3)

Three hours per week.

Problems in communications in business and industry. Lectures, discussion and oral presentations will cover such matters as motivational bases of communications, listening skills, conference leading, and other written and verbal communication problems.

§55 DYNAMICS OF GROUP COMMUNICATIONS (3)

Three hours per week.

Prerequisite: Mgmt. 54, or permission of the instructor.

Development of understanding and skill in interpersonal communication in business and industrial groups. Students work in problem-solving groups for experimental learning. Group process theory discussed.

§Evening College only.

Management (continued)

§56 SEMINAR IN MANAGEMENT PROBLEMS (3)

Three hours per week.

Prerequisites: Mgmt. 99 plus one more required course in certificate program, or permission of the instructor.

Lecture, discussion and case analysis of specific problems relating to management decision-making.

Should be taken near the completion of the Management certificate program.

§61 INDUSTRIAL RELATIONS (3)

Three hours per week.

A general course giving employer and union policies affecting the labor market. The following will be emphasized: wage systems, living conditions, productivity of the worker, unemployment, development of union organizations and collective bargaining. The adjustment of industrial conflicts will be dealt with from the point of view of wage earner, employer and the government.

§63 PLANNING, BUDGETING AND CONTROL FOR SUPERVISORS (3)

Three hours per week.

This is a course in planning, budgeting and control for first- and second-line supervisors and managers. Covered are areas such as: project planning techniques including project definition, work breakdown structure, project goals, scheduling systems (such as Gantt charts, PERT, CPM and Milestone charts), cost estimating and cost curve displays; initiating action; performance reporting; department budgeting; corrective action techniques.

§65 BUSINESS AND INDUSTRIAL ECONOMICS (3)

Three hours per week.

(Econ. 1a and 1b may be substituted.)

A survey of the economic aspects of the American economy. Development of a market society, role of money, public policy and economic matters, income and employment.

§71 PRODUCTION CONTROL (3)

Three hours per week.

This course is designed to show how large and small businesses plan and control production in order to achieve competitive pricing of goods and services. Planning and scheduling, material and inventory planning, flow control, mechanical tabulation, identification systems.

§Evening College only.

Management (continued)

§72 MOTION STUDY AND METHODS ANALYSIS (3)

Three 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 and motions.

§77 INDUSTRIAL ENGINEERING METHODS (3)

Three hours per week.

Overall view of manufacturing management. Fundamentals of organization, capital costs and budgets, motion and time study, industrial statistics, operations, research.

§80 PERSONNEL MANAGEMENT (3)

Three 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. This course can also serve as a first course for persons interested in working in the personnel field.

§85 INDUSTRIAL PSYCHOLOGY (3)

Three hours per week.

The application of psychological principles to the supervisor's job including the cause of job satisfaction and its influences on production. A consideration of employment, training, placement, attendance control, merit rating, dismissal and similar items will be included.

§90 OFFICE MANAGEMENT AND PROCEDURES (3)

Three hours per week.

The primary objectives of this course are to identify for the student the functions of the office manager, the office manager's contribution to the growth of corporate profit and the responsibilities and problems of the office manager. A secondary objective is to instruct the student in the specific techniques of the office manager, especially with respect to methods and office equipment. The course is intended to provide a combination of vocational training and business theories to upgrade the skills of the student in the field of office management.

§Evening College only.

Management (continued)

§91 SALES MANAGEMENT (3)

Three hours per week.

Sales organizations; sales, merchandising and distributive policies; layout of sales territories, selection and training of the sales force; pricing, use of advertising and sales promotion materials. The integration of the points of view of sales and merchandising managers in approaching and solving problems.

§92 TECHNIQUES OF SUPERVISION (3)

Three hours per week.

Designed to improve the student's skill in working with people. An analysis of the objectives and characteristics of good management. Leadership and creativity in supervision. Effective communications.

§96 ORGANIZATION FOR MANAGEMENT (3)

Three hours per week.

A basic course describing the development of scientific management in modern business. Current trends in management, staffing, planning and controlling.

§99 INTRODUCTION TO BUSINESS MANAGEMENT (3)

Three hours per week.

(Satisfies Bus. 10 requirement for A.A. degree in Business.)

A survey of business principles and practices, problems, and procedures, history of American business, organization, ownership, financing, production and distribution of goods.

Should be taken first for Management certificate.

§101 INTERRACIAL RELATIONS IN BUSINESS AND INDUSTRY (1)

Two hours per week for eight weeks.

A general course covering the history, present problems and needs, and future courses of interracial relations. Emphasis will be on background and history of American race relations, white attitudes and how they developed, prejudice and discrimination. Patterns, Black militancy, two Americas and the Negro revolution.

*Day College only.
§Evening College only.

Manufacturing Technology

Instructors: Mr. Brames, Mr. Camps, Mr. Miller.

***52 ELECTRONIC AND MECHANICAL ASSEMBLY TECHNIQUES (BASIC) (2)**

One lecture and three lab hours per week.

Required of all first semester Electronics majors.

Basic hand skills required of electronics and assembly personnel. Familiarization with fabrication and assembly techniques typical of the electronics industry, with heavy emphasis on quality workmanship.

***53 ELECTRONIC AND MECHANICAL ASSEMBLY TECHNIQUES (ADVANCED) (2)**

One lecture and three lab hours per week.

Required of all second semester Electronics majors.

Prerequisite: Satisfactory completion of M.T. 52.

Continuation of instruction in fabrication and assembly techniques, with emphasis on more advanced skills. Instruction in electronic unit design and fabrication of printed circuits.

***54 MANUFACTURING MATERIALS (2)**

Two lecture hours per week.

Various types of materials used in manufacturing and their applications. Techniques in the use of these materials in processing and fabrication. Materials include all basic metals, many alloys, ceramics, plastics, wood and concrete.

***55 BASIC MANUFACTURING PROCESSES (4)**

Two lecture and two three-hour lab periods per week.

Instruction in the broad field of manufacturing, especially electronics. Emphasis on the manipulative skills with many types of manufacturing tools and equipment, both hand and power shearing, punching, fabrication of tool jigs, forming of materials, drilling, tapping, milling, soldering, brazing and welding.

***56 INTERMEDIATE MANUFACTURING PROCESSES (2)**

One lecture and one three-hour lab period per week.

Prerequisite: Satisfactory completion of M.T. 55.

Continued training in the skills of manufacturing processes. Work with various types of equipment used in manufacturing, such as engraving machines, lathes, mills, spray painters, metal finishing, treating and plating.

*Day College only.

Manufacturing Technology (continued)

***62 ELECTRONIC PRODUCT DESIGN (BASIC) (2)**

One lecture and one three-hour lab period per week.

Prerequisite: Satisfactory completion of M.T. 53.

Directed toward the complete design and fabrication of simple electronic units and products. Numerical manufacturing processes are included, as necessary, to the successful completion of the product.

***63 ELECTRONIC PRODUCT DESIGN (ADVANCED) (2)**

One lecture and one three-hour lab period per week.

Prerequisite: Satisfactory completion of M.T. 62.

Continued instruction in the design of electronic products, units and systems. Heavy emphasis on quality workmanship, originality of design and mastery of numerous manufacturing processes.

***64 QUALITY CONTROL MEASUREMENTS (2)**

One lecture and one three-hour lab period per week.

The basic elements of quality control and measurements. Use of the instruments such as micrometers and surface plates, and practice of quality control measurements and inspections on units from allied areas such as machine tools technology, welding, aeronautics and electronics.

***65 SILK SCREEN PROCESSES (2)**

One lecture and one three-hour lab period per week.

Instruction in the broad area of screen process printing with development of fundamental skills in marking and identification as pertaining to advertising electronics and art, with additional emphasis on electronic applications.

***66 PRINTED CIRCUITS AND ADVANCED ELECTRONIC TECHNIQUES (2)**

One lecture and one three-hour lab period per week.

The techniques of printed circuitry as applied to the electronics field. All methods of production are covered, plus special problems such as microminiature and micrologic techniques.

§105 ELECTRONICS AND MECHANICAL ASSEMBLY TECHNIQUES (4)

Two one-hour lecture periods and two three-hour lab periods per week.

A course designed to teach basic hand skills. Fundamentals and techniques of quality workmanship, fabrication and assembly processes as used throughout the industry. The student is provided with a saleable skill and pre-training toward more advanced courses in this field.

*Day College only.
§Evening College only.

Manufacturing Technology (continued)

§115 SILKSCREEN (2)

One one-hour lecture period and one three-hour lab period per week.

Prerequisite: M.T. 105, or consent of the instructor.

A course designed to teach the techniques and processes of silkscreen work as practiced in electronics industries.

Mathematics

Instructors: Mr. Apter, Chairman; Mr. Wallace, Mr. Gossett, Mr. Holmgren, Mr. Jackson, Mr. Crawford, Mr. Singh, Miss O'Mahony, Mr. Mullen, Mr. Rundberg, Mr. Meek, Mr. Harris, Mr. Young.

The normal sequence of mathematic 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 the 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 would normally be eligible.

In general, eligibility of an incoming freshman for a College of San Mateo mathematics course is determined by an evaluation of his transcript and the results of his CSM Placement Examination (SCAT).

Prerequisites for the various courses are detailed in the descriptions which follow. For certain courses an additional qualifying test may be required.

A student who wishes to enroll in Math 32, 33, 34, and who has not had the prerequisite course at CSM must have the approval of the Department Chairman. Likewise, questions regarding equivalency of courses, transfer credit and the like, should be referred to the Chairman.

***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. (Satisfies College of San Mateo General Education requirements in part.)

11 ELEMENTARY ALGEBRA (5)

Day College—five class hours per week.

Evening College—six class hours per week.

Elementary Algebra through quadratic equations.

Satisfactory completion of this course will fulfill in part the mathematics entrance requirements of the universities.

*Day College only.
§Evening College only.

Mathematics (continued)

11a-11b ELEMENTARY ALGEBRA (3-3)

Three class hours per week.

The two courses Math. 11a-11b are equivalent to Math 11.

12 GEOMETRY (5)

Day College—five class hours per week.

Evening College—six class hours per week.

Prerequisite: Math. 11 with grade of C or better, or one year of high school Algebra with grade of C or better.

A 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.

Satisfactory completion of this course will fulfill in part the mathematics entrance requirements of the universities.

13 ELEMENTARY FINITE MATHEMATICS (3)

Three hours of lecture per week.

Prerequisites: Math. 11 with grade of C or better or one year of high school Algebra with grade of C or better. A quantitative SCAT percentile of 35 or better, or Bus. 50, is also required.

An introduction to finite mathematics with attention to set theory, Boolean algebra, switching circuits, probability, systems of linear equations, vector and matrix notations and operations.

Required of all Data Processing majors.

16 CONTENT OF ELEMENTARY SCHOOL MATHEMATICS (3)

Three class hours per week.

Development of the real number system by intuitive and semi-rigorous methods; discussion of sets, logic, axiomatics, systems of numeration, history and development of arithmetic, arithmetic processes, inductive and deductive reasoning.

Meets requirements of California Administrative Code, Title 5, Education, Section 6130(g).

*17 INTRODUCTION TO SYMBOLIC LOGIC (3)

Identical to Philosophy 12. For prerequisite and content, refer to that course.

*Day College only.

Mathematics (continued)

19 INTERMEDIATE ALGEBRA WITH REVIEW (5)

Day College—five class hours per week.

Evening College—six class hours per week.

Prerequisite: Math. 12 with grade of C or better, or high school preparation including one year of Algebra and one year of Geometry with grades of 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. 12 with grade of C or better; or high school preparation including one year of Algebra and one year of Geometry.

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. 19 or 20 (or equivalent) with grade of C or better; or high school preparation including two years of Algebra and one year of Geometry with grades of C or better.

Trigonometric functions of real numbers and angles, their graphs and periodicity; reduction formulas; functions of multiple angles; identities and equations; radian measure; inverse functions; logarithms; solution of triangles.

*25 INTRODUCTION TO NUMERICAL METHODS AND COMPUTER PROGRAMMING (3)

Two one-hour lectures and one three-hour lab per week.

Prerequisite: Math. 30 (or equivalent), or consent of instructor.

Numerical methods applicable to modern electronic computers, including approximation of roots, solution of systems of equations, Newton's method, descriptive statistics, FORTRAN, and a brief introduction to other computer languages. Actual use of IBM 1620, Honeywell 200 and auxiliary equipment.

*Day College only.

Mathematics (continued)

§25e INTRODUCTION TO NUMERICAL METHODS AND COMPUTER PROGRAMMING (2)

Three class hours per week.

Prerequisite: Math. 30 (or equivalent), or consent of instructor.

Numerical methods applicable to modern electronic computers, including approximation of roots, solution of systems of equations, Newton's method, descriptive statistics, FORTRAN, and a brief introduction to other computer languages. Actual use of IBM 1620, Honeywell 200 and related machines in the system. Hands-on computer time will be less than Math. 25.

27 COLLEGE ALGEBRA WITH TRIGONOMETRY REVIEW (5)

Day College—five class hours per week.

Evening College—six class hours per week.

Prerequisite: Math. 21 (or equivalent) with grade of C or better; or high school preparation including two years of Algebra, one year of Geometry and one semester of Trigonometry with grades of 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.

Prerequisites: Math. 21 (or equivalent) with grade of C or better; or high school preparation including two years of Algebra, one year of Geometry and one semester of Trigonometry with grades of C or better.

A 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 ~~(3)~~ (4)

Three class hours per week.

Offered fall semester only in Evening College.

Prerequisites: Math. 27 or 28 with grade of C or better, or eight semesters of high school preparation including two years of Algebra, one year of Geometry and one semester of Trigonometry with grades of C or better.

Elements of plane and solid analytic geometry.

§Evening College only.

Mathematics (continued)

31-32-33 CALCULUS (4-4-4)

Four class hours per week.

Math. 31 and 33 offered spring semester only in Evening College; Math. 32 offered fall semester only in Evening College.

Prerequisites: To enroll in Math. 31, completion of Math. 30 (or equivalent) with grade of C or better. The student may then progress through this series of three courses if he continues to earn grades of C or better. If he earns a grade below C, enrollment in the next course is subject to approval of the instructor.

Development of the basic theory of Differential and Integral Calculus as applied to algebraic circular, hyperbolic, logarithmic and exponential functions; partial differentiation; multiple integration; infinite series.

34 ORDINARY DIFFERENTIAL EQUATIONS (3)

Three class hours per week.

Offered fall semester only in Evening College.

Prerequisite: Math. 33 (or equivalent) with grade of C or better. When approved by the instructor, may be taken concurrently with Math. 33.

Differential equations of first, second and higher order; simultaneous, linear, homogeneous equations; solutions by power series; numerical methods, Fourier series, Laplace transform; applications.

*49 SPECIAL PROJECTS (1-2)

Hours by arrangement.

Prerequisites: Math. 30 (or equivalent); permission of the instructor.

Directed individual study of a suitable topic in mathematics, or construction of a model useful in the study or teaching of mathematics.

55 PRACTICAL TRIGONOMETRY AND SLIDE RULE (3)

Three class hours per week.

Prerequisite: Math. 11 with a grade of C or better, or two semesters of high school level algebra with grades of C or better.

Brief review of algebraic operations, important geometric concepts and theorems, the trigonometric functions, solution of right and oblique triangles, logarithmic computations, the slide rule, vectors and graphs. Representative problems from various fields.

*Day College only.

Medical Assisting

§60a-b **MEDICAL ASSISTING REVIEW (1-1)**

Three hours of laboratory per week.

Prerequisites: Employment as a medical assistant and/or medical secretary, or permission of the instructor.

60a — Clerical Office Procedures. General review of clerical office duties performed in a medical office or in a hospital, including correspondence, transcription, insurance, telephone, basic bookkeeping, medical ethics and legal aspects.

60b — 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 will be discussed.

Medical Electronics

*1 **MEDICAL ELECTRONICS (3)**

Nine lab hours per week.

Prerequisite: Enrollment as a Medical Electronics major.

Clinical and laboratory medical electronics involving electrocardiography, electroencephalography, nystagmography, plethysmorgraphy, cystodynamometry, esophageal motilities, radioisotope measurements and radioisotope scans.

*2 **MEDICAL ELECTRONICS (3)**

Nine lab hours per week.

Prerequisite: Medical Electronics 1.

Common instrumentational procedures as applied directly to patients. Introduction to evaluation, service and modification of instruments.

*3 **MEDICAL ELECTRONICS (3)**

Nine lab hours per week.

Prerequisite: Medical Electronics 2.

Continuation of procedures of Medical Electronics 1 and 2 with further emphasis upon evaluating and modifying medical electronic instruments.

Meteorology

Instructor: Mr. Zempel.

1 **ELEMENTARY METEOROLOGY (3)**

Three hours of lecture per week.

A descriptive course in elementary meterology including the basic processes of weather phenomena.

*Day College only.
§Evening College only.

Meteorology (continued)

10 AVIATION WEATHER (3)

Three hours per week for lecture, discussion and demonstration.

Prerequisite: Aero. 2a or consent of instructor. Not open to students who have had or are taking Meteorology 1.

A study of the basic weather concepts and their special application to aviation. Designed to prepare the aviation student for the meteorology portion of the FAA pilots' examination.

Military Science (Reserve Officers' Training Corps)

***11 WORLD MILITARY HISTORY (2)**

Two lecture hours per week and four leadership lab periods per month.

Prerequisite: See "Military Science" section under "Suggested Curricula."

Study of the forces which historically have produced armed conflict; historical development of basic concepts of war and their application to current national security problems; perspective of the history of warfare.

***12 WORLD MILITARY HISTORY (2)**

Two lecture hours per week and four leadership lab periods per month.

Prerequisite: Military Science 11.

Continuation of Military Science 11.

***21 FOUNDATIONS OF NATIONAL POWER (2)**

Two lecture hours per week and four leadership lab periods per month.

Prerequisite: Military Science 12.

Study of the capacity of a nation to produce the elements of power, effectiveness of national power in solving international problems, with emphasis on the role of military power and national security.

***22 FOUNDATIONS OF NATIONAL POWER (2)**

Two lecture hours per week and four leadership lab periods per month.

Prerequisite: Military Science 21.

Continuation of Military Science 21.

Mineralogy

Instructor: Mr. Zones.

***6 ELEMENTARY MINERALOGY (4)**

Two lecture hours and two three-hour lab periods per week.

Prerequisites: Elementary Chemistry and Physics.

Basic principles of crystallography and X-ray crystallography, crystal chemistry and the geochemistry of mineral formation. Laboratory includes mineral and rock identifications, and work on crystal models and the crystal projections.

*Day College only.

Music

Instructors: Mr. Crest, Mr. Marshall, Mr. Bardes, Mr. Gustavson, Mr. Berry, Mr. Harrison, Mr. Tippey.

The courses of the Music Department are designed to fill the needs of the music major or professional musician as well as the desires of students for general education, avocation and recreation. Professional musicians, private teachers and others qualified are welcome to such theory classes as are desirable. The department will maintain a flexibility which will allow the addition of other courses upon demand of a sufficient number of students. Recitals by students and professional musicians are available. Attendance forms part of the requirement for music students.

Auditions: Students majoring in music will audition before the music faculty to prove necessary competence in the chosen solo performing area. Auditions may be repeated at the end of each semester to display progress.

*1a-1b MUSICIANSHIP (2-2)

Two hours per week; one lab hour per week.

Prerequisite: Some pianist ability desirable. Music 1a is a prerequisite for Music 1b.

Includes the study of music notations, keys, key signatures, intervals; musicians of the past and present, orchestral instruments, fundamentals of conducting, sight reading and ear training.

This course is required of Music majors.

*2a-2b ADVANCED MUSICIANSHIP (2-2)

Two hours per week.

Prerequisite: 1a-1b or its equivalent.

A continuation of Music 1a-1b. (Six units of Musicianship are recommended for students majoring in Music.) Emphasis is on ear training and sight reading.

*3 HISTORY AND LITERATURE (3)

Three class hours per week.

A basic survey of the history and literature of the art of music, with particular attention paid to the development of style and form from the early Christian era to Contemporary times. Required of Music majors. Non-music majors permitted to enroll only with consent of the instructor.

*Day College only.

Music (continued)

4a-4b HARMONY (3-3)

Three hours per week.

Prerequisites: Music 1a-1b (or equivalent), usually taken concurrently. Some piano ability is essential. Music 4a is a prerequisite for Music 4b.

A study of chords and their relation to each other, to develop the ability to harmonize melodies on paper or at the keyboard. 4a-4b carries the student from simple triads through and including chords of the dominant seventh. Keyboard harmony is a part of this course.

Open to any student of sufficient preparation; required of Music majors.

***5a-5b ADVANCED HARMONY (3-3)**

Three class hours per week.

Prerequisite: Music 4a-4b. Music 5a is a prerequisite for Music 5b.

Deals with first-, second- and third-class chords of seventh and ninth, altered chords and modulations, and arranging for various vocal and instrumental groups, also original composition.

6 MUSIC LITERATURE AND APPRECIATION (3)

Three hours per week.

A non-technical study of music literature with emphasis on the understanding and appreciation of this phase of the art. A text, illustrated lectures and directed listening in the library indicate the procedure of the course. Material covered includes the Classic, Romantic, National and Modern schools of composition. Recital attendance is a part of this course.

This course is particularly for non-music majors and will help meet General Education requirements. It is required of State College elementary school majors.

***7 A SURVEY OF BLACK MUSIC (3)**

Three hours per week.

A chronological survey of the various styles and salient elements of the music of the Afro-American, encompassing sociological as well as musical factors.

Open to all students.

8 FUNDAMENTALS FOR THE CLASSROOM TEACHER (3)

Three hours per week.

A study in the basic musical skills needed by the elementary classroom teacher. Voice, piano, theory, conducting, orchestral instruments, listening to and creating music, are subjects dealt with in this course.

Required of State College elementary school majors and of particular interest to Liberal Arts or General Education students. Not a substitute for Music 1a-1b but might be of value to Music majors.

*Day College only.

Music (continued)

***11 PIANO (1)**

Prerequisite: Concurrent enrollment in Music 4 or 5.

A course for music majors which emphasizes the features of keyboard harmony. Requires only elementary piano technique.

***12 ELEMENTARY PIANO (1)**

For beginners. A study in the techniques of piano playing. Individual attention, assignments and performance in a class situation. Required lab hours.

May be repeated for credit.

***13 ADVANCED ELEMENTARY PIANO (1)**

A continuation of Music 12. Same requirements.

***14 INTERMEDIATE PIANO (1)**

A continuation of Music 13 or its equivalent. Same procedures and requirements.

***15 ADVANCED PIANO (1)**

For students with advanced technical accomplishment. Increased personal attention and recital performance are a part of this course.

***16 ACCOMPANYING (1)**

Prerequisite: Advanced ability.

Skills and techniques of playing accompaniments for singers, instrumental soloists and choral groups. Performance is an essential of this course.

May be repeated for credit.

***17 COMPOSERS WORKSHOP (2)**

One lecture and two lab hours per week.

Prerequisite: Consent of the instructor.

The study of compositional style from Schoenberg to the present time with particular emphasis on dodecaphonic, electronic and aleatory techniques. Performances of student works are an integral part of the course.

May be repeated for credit.

***22 ORCHESTRA (1)**

Three hours per week.

Prerequisite: Consent of instructor. Open to all students of the College.

Study and performance of standard and contemporary literature for chamber and symphonic ensembles. Performance is required. May be repeated for credit. Wherever possible, students should enroll in Music 27S concurrently.

*Day College only.

Music (continued)

***23a-23b SYMPHONIC BAND (2)**

Five hours per week.

Prerequisite: Consent of instructor.

Open to all students of the College.

Study and performance of music for concert band. Performance is required.

May be repeated for credit.

***24 STUDY OF BRASS INSTRUMENTS (1)**

Three class hours and three 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 and three lab hours per week.

Technique of playing the instrument of the student's choice, with individual instruction.

May be repeated for credit.

***26 STUDY OF STRINGED INSTRUMENTS (1)**

Three class hours and three lab hours per week.

Technique of playing the violin, viola, cello or string bass, with individual instruction.

May be repeated for credit.

***27(B-S-W) INSTRUMENTAL ENSEMBLE (1)**

Three hours per week.

Prerequisite: Adequate performing ability to secure consent of the instructor.

The letters B, S and W indicate Brass, String and Woodwind. Performance is required.

May be repeated for credit.

***28 DANCE BAND (2)**

Five hours per week.

Prerequisites: Consent of the instructor. Only expert players are eligible.

A terminal course which includes organization, training procedures, arranging, vocals and other phases of dance band work. Performance is required.

May be repeated for credit.

*Day College only.

Music (continued)

§29 WIND ENSEMBLE (1)

Three hours per week.

Prerequisite: Admittance only by audition and/or consent of instructor.

Study and performance of wind instrument literature written by major composers.

May be repeated for credit.

***30 WOMEN'S CHORUS (1)**

Three hours per week

Prerequisite: Consent of the instructor.

Study and performance of the literature of the S.S.A. and S.S.A.A. vocal field.

May be repeated for credit.

***31 MEN'S GLEE CLUB (1)**

Three hours per week.

Prerequisite: Consent of the instructor. High school glee club experience desirable.

Study and performance of literature for male voices.

May be repeated for credit.

***33 A CAPPELLA CHOIR (2)**

Five hours per week.

Prerequisite: Consent of the instructor.

Study and performance of choral literature for accompanied and unaccompanied choir. Performance is required.

May be repeated for credit.

***34 COLLEGE CHORALE (1)**

Three hours per week.

Prerequisites: Consent of instructor after an audition and concurrent registration in Music 33.

An advanced ensemble which specializes in the performance of fine 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.

***36 ELEMENTARY SOLO VOICE (1)**

Elementary vocal problems analyzed and corrected through exercises and songs. Class sessions with private help by appointment.

May be repeated for credit.

*Day College only.
§Evening College only.

Music (continued)

***37 ELEMENTARY SOLO VOICE (1)**

A continuation of Music 36 with procedures as listed above.

***38 INTERMEDIATE SOLO VOICE (1)**

Procedure as above with more advanced songs and recital performances as ability merits.

***39 ADVANCED SOLO VOICE (1)**

A performance course. Continuation of the above courses with emphasis on the study and performance of lieder, arias and other classical vocal literature.

***40 MUSICAL PRODUCTIONS (1-3)**

One class hour per week per unit.

Prerequisite: Consent of instructor after audition.

Training in chorus and solo parts of staged musical shows. Units depend on the hours the part demands.
May be repeated for credit.

***41 MUSIC RECITALS (½)**

One class hour per week.

Open to all students.

A listening course.

May be repeated for credit.

Music majors are required to complete four semesters.

Natural Science

10a-10b SCIENCE AND CONTEMPORARY PROBLEMS (3-3)
An inter-disciplinary course drawing from the areas of life and physical sciences; consideration will be given to the following topics:

10a — The validity of science, the atom and nuclear war, ecology and the environmental crisis, science and morality.

10b — The origin and evolution of the universe, the origin and evolution of life, the population explosion, the nature of man, cybernetics and society, science, and morality, God.

*Day College only.

Nursing (A. A. Degree)

The courses described are open only to those students accepted in the two-year nursing program. A grade of C or higher is necessary for progression in the sequence. Upon graduation, the candidate receives an Associate in Arts degree and is eligible to write the California State Board examination for Registered Nurses.

***NURSING 1 (7)**

Four lecture hours and nine lab hours per week.

Prerequisites: Registration in the Associate in Arts Degree Nursing Program and concurrent enrollment in Anatomy 2.

Principles and practices in the fundamentals of nursing which are common to all patient conditions. Common human needs and health needs of normal as well as sick individuals are considered. Correlated clinical practice with the subacute and chronically ill is offered concurrently with the lectures.

***NURSING 2 (7)**

Four lecture hours and nine lab hours per week.

Prerequisites: Nursing 1, Anatomy and Physiology 2, both with a grade of C or better, and concurrent enrollment in Bacteriology 2 and Psychology 5.

Designed to develop knowledge and understanding of human behavior and growth and development of the child and the family. The focus will be on nursing care related to the adaptations to stress during the growth and development cycle, during the maternity cycle and during emotional illness. Theory and clinical experience are correlated. Principles of growth and development, mental health, homeostasis and nutrition are correlated.

***NURSING 3 (8)**

Four lecture hours and 12 lab hours per week.

Prerequisites: Nursing 2, Bacteriology 2, and Psychology 5, with a grade of C or better.

Beginning nursing care of patients with illnesses common to adults requiring medical and/or surgical intervention. Preventive, therapeutic, pharmacological, nutritional and rehabilitative aspects of these conditions. Principles of growth and development, mental health and homeostasis are correlated.

***NURSING 4 (8)**

Four lecture hours and 12 lab hours per week.

Prerequisite: Nursing 3 with a grade of C or better.

Correlated theory and clinical experience in nursing of patients with acute conditions requiring medical and/or surgical intervention including long-term care and rehabilitation. Preventive, therapeutic, pharmacological, nutritional and rehabilitative aspects of these conditions. Principles of growth and development, mental health and homeostasis are correlated.

*Day College only.

Nursing (Medical Assisting)

***60 MEDICAL ASSISTING (3)**

Three hours of lecture and discussion per week.

Prerequisite: Anatomy 51.

Assisting with procedures commonly done in a doctor's office. Principles of asepsis, radiation protection, Harrison Drug Act and medical ethics will be discussed.

Nursing (Vocational)

***51 MEDICAL-SURGICAL NURSING I (17)**

Twelve units of lecture and five units of lab.

Prerequisites: Registration in Vocational Nursing Curriculum and concurrent enrollment in Anatomy 51.

An introduction to nursing with emphasis on fundamental nursing skills, patient safety, communication skills and the understanding of the patient as a person. Correlation of theory and laboratory experience in chronic and subacute medical and surgical conditions of adults and children. Dietary, pharmacologic, psychological and rehabilitative aspects are integrated. Role of the vocational nurse as a member of the nursing team is emphasized. Principles of growth and development, mental health and the maternity cycle are included.

***52a MEDICAL-SURGICAL NURSING II (14)**

Six units lecture and eight units lab.

Prerequisites: A grade of C or better in Nursing 51 and Anatomy 51, and concurrent enrollment in Bacteriology 61.

A continuation of Nursing 51 with experience in more complex medical-surgical nursing situations and including the care of the mother and newborn.

***52b MEDICAL-SURGICAL NURSING III (9)**

Two units of lecture and seven units of lab.

Prerequisites: A grade of C or better in Nursing 52a, (V.N.) Home Econ. 50 and (V.N.) Bacteriology 61.

A continuation of Nursing 52a.

*Day College only.

1970-1971

Paleontology

Instructor: Mr. Glen.

***1 GENERAL PALEONTOLOGY (3)**

Three lecture hours and one one-hour demonstration per week.

A 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. Lectures, field trips and laboratory demonstrations.

Philosophy

Instructors: Mr. Tory, Mr. Porter, Mr. Cooper, Mr. Fellows.

6a INTRODUCTION TO SOCIAL AND POLITICAL PHILOSOPHY (3)

Three hours of lecture per week.

A study of philosophical methods and attitudes; a critical evaluation of selected political and social ideologies, and views concerning the nature of man, the physical world and God.

6b INTRODUCTION TO THEORY OF KNOWLEDGE (3)

Three hours of lecture per week.

A critical study of the possible sources and limits of human knowledge; the ability of sense experience, reason, revelation, faith, intuition to provide us with reliable information about nature, ourselves and God; their role in establishing moral, religious and aesthetic convictions.

7 INTRODUCTION TO LOGIC (3)

Three hours of lecture 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.
Recommended as a valuable General Education course for students in any field.

***8 LOGIC: SCIENTIFIC METHOD (3)**

Three hours of lecture per week.

Familiarizes the student with the scientific method in the physical, biological, and social sciences. Inductive inference; hypothesis formulation and testing; analogy; probability; causality; verification; nature of scientific explanation. (Recommended for physical science and social science majors.)

*Day College only.

Philosophy (continued)

***12 INTRODUCTION TO SYMBOLIC LOGIC (3)**

Three hours of lecture per week.

Prerequisite: English 1a or consent of instructor.

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.

Recommended for Philosophy and Mathematics majors.

20a HISTORY OF PHILOSOPHY (3)

Three hours of lecture 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 HISTORY OF PHILOSOPHY (3)

Three hours of lecture per week.

A study of the thought of the Renaissance and the rise of modern science, of continental rationalism in Descartes, Leibnitz, Spinoza, and of the opposing tradition of British empiricism and the critical philosophy of Kant.

20c HISTORY OF PHILOSOPHY (3)

A study of 19th and 20th Century philosophical positions including those of Kant, Hegel, Nietzsche, Schopenhauer, the Utilitarians, Pragmatists, Logical Positivists, Existentialists and contemporary Analytic Philosophers.

23 ETHICS (3)

Three 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. Among the topics discussed will be the concept of the good, duty, egoism, altruism, freedom, personal social responsibility.

24a INTRODUCTION TO RELIGION, RELIGIONS OF THE WORLD (3)

Three hours of lecture per week.

An introductory course in the history and development of the great religions of the world; their cultural background, their basic tenets, their religious practices, their literature and art, and their impact on the society and culture of which they are a part.

*Day College only.

Philosophy (continued)

24b INTRODUCTION TO RELIGION, PHILOSOPHY OF RELIGION (3)

Three hours of lecture 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.

***49 SPECIAL PROJECTS (1-2)**

Prerequisites: Sophomore standing, three units in Philosophy and consent of the Social Science Division Chairman.

Special supervised study in depth of the writings of a particular philosopher or a specific problem in philosophy. A paper or written report will be required at the end of the semester.

51 VALUES IN THE MODERN WORLD (3)

Three lecture hours per week.

Relates the ideas and methods of great social and ethical thinkers to contemporary life and personal situations. Classroom inquiry helps develop skills of critical reading, thinking on topics such as the conflicts between the individual and the state, freedom and authority, religion and conscience. The application of scientific methods to solving social and ethical problems.

§52a-52b—PHILOSOPHY FOR A SCIENTIFIC AGE (3-3)

Three lecture hours per week.

A cross-disciplinary survey of the scope, logic, method, history and philosophy of science as a cultural enterprise as well as of the outstanding achievements of the scientific method in the various natural and social sciences.

Physical Education (Men)

Instructors: Mr. Giffin, Chairman; Mr. Balsley, Mr. Noce, Mr. Avina, Mr. Donner, Mr. Carter, Mr. Harris, Mr. Dickey, Mr. Shafer, Mr. Tollner, Mr. Jacques, Mr. Rush, Mr. Lindores.

Department Requirements: Students registered in a Physical Education class who claim exemption by reason of physical disability must present the C.S.M. adapted form properly completed by their physician. The Physical Education class must be attended until the disability is verified and the student given specific instructions as to procedure.

*Day College only.
§Evening College only.

Physical Education (Men) (continued)

The Department of Physical Education for Men of the College of San Mateo operates under the State Law of California, which requires each regularly registered student to participate in physical education activities. In accordance with the provisions of the School Code, all men students, except those physically disabled or otherwise excused, are required to attend the regularly organized courses in physical education for not less than two hours each week that school is in session.

It is the philosophy of the Physical Education Division that all students involved in activity courses have a diversifed experience in physical education. Therefore, students will be programmed in such a manner as to give them a broad variety of activities. Counselors will require students to participate in several areas, drawing from aquatics, rhythmics, individual sports, team sports, gymnastics or combatives. Students may not repeat a class activity without the permission of the physical education faculty.

VARSITY SPORTS

These courses are designed for those students who desire to compete in intercollegiate athletics and may be limited to those who present 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. Varsity awards are granted.

All varsity sports entail practice from 3 to 6 p.m. daily.

***3 VARSITY FOOTBALL (1)**

Prerequisite: Permission of the instructor.

Intercollegiate varsity football competition in the Golden Gate Conference.

***4 VARSITY CROSS COUNTRY (1)**

Prerequisite: High school track or cross country experience or permission of the instructor.

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.

***5 VARSITY BASKETBALL (1)**

Prerequisite: Permission of the instructor.

Intercollegiate varsity basketball competition in the Golden Gate Conference; participation in regional tournaments.

*Day College only.

Physical Education (Men) (continued)

***6 VARSITY WRESTLING (1)**

Prerequisites: Varsity wrestling experience in high school or junior college and permission of the instructor.

Intercollegiate competition in dual matches in the Golden Gate Conference; competition in four tournaments each year including the California State Junior College Tournament; instruction in the more advanced skills of wrestling.

***7 VARSITY TRACK AND FIELD (1)**

Prerequisite: High school track or cross country experience or permission of the instructor.

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 meet for those who qualify.

***8 VARSITY BASEBALL (1)**

Prerequisite: Permission of the instructor.

Intercollegiate varsity baseball competition in the Golden Gate Conference tournament and with other junior colleges in this area.

***9 VARSITY TENNIS (1)**

Prerequisite: Permission of the instructor.

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)**

Prerequisites: Consent of the instructor; open to advanced golfers who have played in inter-school competition.

Intercollegiate varsity golf competition in the Golden Gate Conference; participation in the Western Junior College Intercollegiate Tournament and State championships for those who qualify.

***11 VARSITY SWIMMING (1)**

Prerequisite: Consent of the instructor.

Intercollegiate varsity swimming competition in the Golden Gate Conference, Northern California and State Junior College swimming championships.

***12 VARSITY SOCCER (1)**

Prerequisite: Consent of the instructor.

Intercollegiate soccer competition with Northern California junior colleges and colleges.

*Day College only.

Physical Education (Men) (continued)

***13 VARSITY WATER POLO (1)**

Prerequisite: Consent of the instructor.

Intercollegiate competition in the Golden Gate Conference, Northern California Championships, and the State Junior College Championships.

***14 VARSITY GYMNASTICS (1)**

Prerequisite: Consent of the instructor.

Intercollegiate competition in gymnastics.

INTRAMURALS

Supervised intramural sports are scheduled throughout the semester Tuesday and Thursday at 11 a.m.

Competition in selected seasonal activities for all men students: flag football, basketball (3- and 5-man leagues), tennis, table tennis, badminton, volleyball and softball. (No credit granted.)

AQUATICS

***1 INTERMEDIATE SWIMMING (½)**

Prerequisite: The ability to swim 25 yards in deep water using any stroke.

Progressive skill development in elementary back stroke, side stroke, breast stroke, crawl, turning, back float, sculling, treading water, swimming under water, simple front diving. Also, water knowledges including personal safety in swimming, elementary forms of rescue.

***1 WATER POLO (½)**

Prerequisites: The ability to swim 50 yards using a "head high" crawl stroke, to swim 50 yards using the breaststroke, to tread water for 3 minutes and to tread water for 1 minute with the hands out of the water.

Progressive skill development in picking up a ball in the water, passing, receiving, shooting, dribbling and playing the game of water polo. Knowledge of water polo rules and simple facets of water safety.

COMBATIVES

***1 ELEMENTARY BOXING (½)**

Designed to give the student a knowledge of the basic skills in boxing. There will be drills on the stance, six types of blows and the defenses for these blows. These techniques will be applied in actual boxing in the class with students wearing protective headgear.

*Day College only.

Physical Education (Men) (continued)

***1 ELEMENTARY WRESTLING (½)**

Designed to introduce the student to intercollegiate wrestling through instruction in the rules, scoring system, and skills. Fundamental stances, take downs, escapes, reversals, breakdowns, rides and pinning combinations. After learning these skills, the student will be able to apply them in short periods of wrestling.

***1 ADVANCED WRESTLING (½)**

Prerequisites: Elementary wrestling at C.S.M. or at least one year of varsity wrestling in high school.

More advanced skills as applied to intercollegiate wrestling. Further instruction in take downs, escapes, reversals, breakdowns, rides and pinning combinations. Competition will be offered in dual competition and a tournament within the class.

***1 ELEMENTARY JUDO (½)**

Prerequisite: Beginners only.

An elementary course in 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. The emphasis of this class is on judo as a sport.

***1 ADVANCED JUDO (½)**

Prerequisite: Permission of the instructor.

A continuation of skills learned in Elementary Judo. Advanced attacks and defenses are demonstrated and practiced. Consideration is given to judo as an "art," with emphasis upon maximum use of the mind and the body.

CONDITIONING

***1 ROPE ACTIVITIES (½)**

Vertical rope climbing activities and rope skipping, progressing development in 17 climbing skills, explanation and development of safety skills, evaluation program which includes climbing for speed, advanced techniques and progressive tests in various forms of rope skipping.

***1 FITNESS ACTIVITIES (½)**

For the student who desires a course in regular and vigorous activity. Tests are given regularly relating to motor fitness, speed, balance, strength, endurance, flexibility, power. Considerable running activity is done. Several college fitness batteries are utilized.

*Day College only.

Physical Education (Men) (continued)

***1 REBOUND TUMBLING (½)**

Trampoline activity for elementary, intermediate and advanced students. Safety skills and fundamental processes of rebound tumbling are taught in the following phases:

Phase I: Fundamental bounces, checks, drops, simple combinations, turns, twists and somersaults.

Phase II: Continuance of activities of Phase I plus combinations of front and back somersaults and other intermediate movements.

Phase III: For advanced students interested in the development of techniques in twisting somersaults, advanced routines, trick skills and double-teaming.

***1 ELEMENTARY TUMBLING (½)**

The beginning skills of tumbling. Attention is given to tumbling procedures and format, all elementary stunts and activities; some doubles activity is provided; group participation in pyramids.

***1 ELEMENTARY GYMNASTICS (½)**

Prerequisite: Successful completion of a tumbling course at C.S.M. or permission of the instructor.

A course for elementary students in a combination of gymnastic activities including rebound tumbling, tumbling, horizontal bar, vaulting buck, long horse, parallel bars, rings and mini-tramp.

INDIVIDUAL SPORTS

***1 ELEMENTARY BADMINTON (½)**

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.

***1 ADVANCED BADMINTON (½)**

Prerequisite: Consent of the instructor or completion of the elementary course in the top ability group.

Advanced techniques through drills and round-robin tournaments in singles and doubles play.

***1 ELEMENTARY BOWLING (½)**

Learning opportunities in the stance, approach, release and roll; participation in a league bowling situation; knowledge of rules, scoring and etiquette.

Approximate cost per student is $18 per semester. Students must provide own transportation.

*Day College only.

Physical Education (Men) (continued)

***1 ADVANCED BOWLING (½)**

Prerequisite: 165 blue book average in an A.B.C. bowling league or permission of the instructor.

Participation in advanced league bowling competition; individual scoring statistics are maintained.

Approximate cost per student is $18 per semester. Students must provide own transportation.

***1 ELEMENTARY GOLF (½)**

Elementary instruction concerning the techniques, rules, etiquette and philosophy for the beginning golfer. Stance, grip, position, swing and follow-through as associated with selected iron and wood shots.

***1 ISOMETRICS AND RUNNING (½)**

Instruction in, and conditioning through basic isometric exercises and running activities; also use of isometric exercises for individual programs.

***1 ELEMENTARY TENNIS (½)**

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.

***1 ADVANCED TENNIS (½)**

Prerequisite: Permission of the instructor.

Advanced aspects of tennis play. Instruction in advanced techniques; ladder play in singles and doubles; testing program in skills and techniques.

***1 ELEMENTARY HANDBALL (½)**

Basic handball skills involving serving and strokes. Featured in doubles competition including theory and strategy. Understanding of the rules pertaining to one-wall handball will be stressed.

***1 ELEMENTARY PADDLE BALL (½)**

Basic paddle ball skills involving the serve, forehand and backhand strokes. A thorough understanding of the rules and strategy of the game is provided. Tournament play is offered in one-wall doubles.

***1 ELEMENTARY WEIGHT CONDITIONING (½)**

A basic course of weight conditioning designed to build and strengthen the body; also instruction in the various bar-bell exercises and associated safety procedures.

*Day College only.

Physical Education (Men) (continued)

***1 INTERMEDIATE WEIGHT CONDITIONING (½)**

Prerequisite: Successful completion of elementary weight conditioning at C.S.M. or permission of the instructor.

Progressive skill and weight development in various weight conditioning exercises; opportunities to specialize in different areas of the body; development of individual programs.

***1 INDIVIDUAL PROGRAMS IN WEIGHT CONDITIONING (1)**

Three days per week.

Prerequisites: Previous experience in weight training or permission of the instructor; statement of a goal for which the course is being taken.

Vigorous weight training in an individual program of exercises designed to build specific strength with regard to each student's goal.

***1 CIRCUIT TRAINING (½)**

Vigorous group weight training exercises set up in training "stations." Individuals rotate from station to station on a specific time schedule. Emphasis is not on strength, but on over-all body conditioning.

TEAM SPORTS

***1 ELEMENTARY BASKETBALL (½)**

Instruction in the fundamental skills of basketball, such as dribbling, passing, shooting, team offense and defense; knowledge of rules and strategies; evaluation of rules and all skills which are taught.

***1 ADVANCED BASKETBALL (½)**

Prerequisite: Playing experience in high school on either "B" or varsity level.

Advanced skills of basketball play; some continuance of elementary skills; advanced techniques of offensive and defensive play; round-robin team play; evaluation on knowledge of rules and testing program on all skills taught.

***1 ELEMENTARY SOFTBALL (½)**

Fundamentals and play situations of softball; students participate in game situations and round-robin play; testing on rules and all skills presented.

***1 SOCCER (½)**

For the beginning or elementary student; 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.

*Day College only.

Physical Education (Men) (continued)

***1 ELEMENTARY VOLLEYBALL (½)**

Instruction in the fundamentals of serving, passing, setting and spiking; team competition under National and International rules of play; testing program in all skills taught and on knowledge of rules.

***1 RUGBY (½)**

For the beginning or elementary student; basic fundamentals of individual play; participation in game situations; testing program in rugby skills and knowledges.

***1 ADVANCED VOLLEYBALL (½)**

Prerequisite: Permission of the instructor.

Volleyball play for advanced volleyball students of superior ability; continuation of the fundamental skills; advanced emphasis upon team play and strategy; tournament play is offered.

COMPETENCIES

***30a-b-c-d PHYSICAL EDUCATION COMPETENCIES (2-2-2-2)**

A series of planned activities designed to assist those students majoring or minoring in Physical Education or Recreation to attain the skill level necessary to pass the upper division skill competency requirements of the four-year colleges and universities. Activities include aquatics, team sports, combatives, gymnastics and individual sports.

THEORY

***41 THE THEORY OF SPORTS OFFICIATING (1)**

Two lecture hours per week plus lab hours.

A course designed for physical education men majors. Treatment is given to officiating procedures in football, basketball, track and field, baseball, wrestling, water polo, swimming and soccer. Students participate in a laboratory experience of officiating in all these activities. Assignments are given as related to the intramural and physical education instructional program.

Physical Education (Co-ed)

***40 THE NATURE AND SCOPE OF PHYSICAL EDUCATION (2)**

Two lecture hours per week.

A parallel course to Introduction to Physical Education which is offered in the four-year institutions. This course represents a 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 objective testing.

*Day College only.

Physical Education (Co-ed) (continued)

***2 ADAPTED SPORTS (½)**

Prerequisite: Physician's recommendation or assignment by the college nurse, division head, or the instructor.

Concepts of fitness including corrective exercises. Fundamental skills and rules for shuffleboard, volleyball, croquet and horseshoes. Program geared to individual student needs.

***2 ELEMENTARY FENCING (½)**

Elementary techniques and practice in the sport of fencing including form, attacks, parries, counter-attacks, timing and strategy. Also included are the following elementary knowledges: history, safety, etiquette, rules, terminology, judging, directing and score keeping.

***2 INTERMEDIATE FENCING (½)**

Prerequisite: One semester of fencing.

An extension of the Beginning Fencing course; more concentration on the development of timing, strategy and the more advanced and finer points of technique.

***2 ELEMENTARY BALLET AND MODERN DANCE (½)**

Beginning techniques of both ballet and modern dance are studied and executed. Movement skills, rhythmic structure of dance, qualities of movement, spatial design and an appreciation of dance are presented. The modern ballet and modern dance styles are emphasized in the creation of individual compositions.

***2 ELEMENTARY JAZZ AND MODERN DANCE (½)**

Beginning techniques as explained in the Elementary Ballet and Modern Dance course. However, the expression and suggestion of slow and fast jazz and the inner expression of modern dance are emphasized.

***2 DANCE PRODUCTION (½)**

Prerequisite: Elementary Modern Dance or instructor's permission.

The intermediate and advanced dancer will become familiar with all types of choreographic principles of dance composition and stage presentation. The development of an appreciation of various types of dance such as: primitive, medieval, expressionism, cerebralism, jazz, improvisation, impressionism, formal ballet, modern ballet, Broadway musical, Americana and folk dances. The dancer will develop an appreciation of the relationship existing between dance and other forms of art. A dance production will be staged in the spring semester as a class presentation.

*Day College only.

Physical Education (Co-ed) (continued)

***2 ELEMENTARY FOLK DANCE (½)**

Folk and square dance fundamentals, basic steps (two-step, polka, schottische, waltz and mazurka) and the development of a correct rhythmical response. Representative dances of many countries are presented.

***2 INTERMEDIATE FOLK DANCE (½)**

Prerequisite: Elementary Folk Dance or instructor's permission.

Continuation of techniques introduced in the beginning class with emphasis on more advanced dances and dance styles. Exhibition work may be included.

***2 ELEMENTARY SOCIAL DANCE (½)**

Social dance fundamentals, basic social dance steps (waltz, tango, fox trot, rhumba and cha cha cha), etiquette and the development of a correct rhythmical response.

***2 INTERMEDIATE SOCIAL DANCE (½)**

Prerequisite: Elementary Social Dance.

An extension of Elementary Social Dance course. More intricate variations are studied in the waltz, fox trot, rhumba, cha cha cha and mambo. In addition, there is more concentration on individual style, transitions and the character of the individual step. Time permitting, other dances will be offered.

***2 ELEMENTARY SWIMMING (½)**

Instruction in the elementary skills, such as water adjustment, floating, elementary crawl, elementary back stroke, breathing techniques and elementary diving; also personal water safety procedures.

***2 LIFE SAVING (½)**

Prerequisites: The ability to swim 440 yards continuously, demonstrating the crawl, side stroke and breast stroke; standing front dive; surface dive to six-foot depth and swim two body lengths under water; floating.

Progressive skill development in take-offs, approaches, carries, defensive mechanism, shallow water carries, water safety knowledge and artificial respiration.

***2 WATER SAFETY INSTRUCTION (½)**

Prerequisite: Current American Red Cross Senior Life Saving Certificate.

Phase I: Development of effective performance in the nine basic swimming strokes and the various life saving and water safety skills. Phase II: Teaching techniques, methods and knowledges necessary to teach American Red Cross swimming and life saving courses.

*Day College only.

Physical Education (Co-ed) (continued)

***2 AQUATIC FITNESS (½)**

Prerequisite: Ability to swim 100 yards continuously, demonstrating the crawl and breast stroke.

Endurance swimming stressed, based on an interval training system. A class goal will be to be able to swim one mile within a 30-minute time period.

***2 ELEMENTARY DIVING (½)**

Prerequisite: The ability to demonstrate competency in and adjustment to deep water.

Open to beginning men or women divers. Each student will be challenged by dives suited to his or her level of ability. Dives will be taught from both the one- and three-meter boards at the discretion of the instructor.

***2 ELEMENTARY SKIN AND SCUBA DIVING (½)**

Prerequisite: The same as Life Saving; only beginning students in skin and scuba training will be admitted.

All 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. All scuba equipment is provided by the College.

***2 ADVANCED TENNIS (½)**

Prerequisite: Permission of the instructor.

A course in advanced aspects of tennis play. Instruction is given in advanced techniques beyond the elementary level. Ladder play is conducted in singles and doubles. A testing program is conducted in all skills and techniques.

***2 ELEMENTARY ARCHERY (½)**

For beginning archers. Deals primarily with the fundamentals of target archery. Individual and team competition is used in the Junior Columbia Round, Columbia Round and clout shooting. Also included is the basic understanding of rules, scoring, terminology, and care and selection of equipment.

***2 INTERMEDIATE ARCHERY (½)**

Prerequisite: Women—Successful completion of Elementary Archery at C.S.M. or instructor's permission with previous archery experience in high school. Men—no prerequisite.

Continuation of target archery techniques (with increasing distances), plus variety of archery games and competition (clout shooting, roving archery, modified hunters and field rounds, Flint Round, Columbia Round). Team and individual competition.

*Day College only.

Physical Education (Women)

Instructors: Miss Burton, Chairman; Mrs. Berensmeier, Miss Ingraham, Miss Silva, Mrs. Fouts, Mrs. Rock, Mrs. Banks, Mrs. Sinclair, Miss Price.

The Department of Physical Education for Women of the College of San Mateo operates under the State Law of California which requires each regularly registered student to participate in a Physical Education activity. State requirements in Physical Education are as follows: In accordance with the provisions of the California School Code, all women students, except those physically disabled as certified by a practicing physician or otherwise excused, are required to attend organized courses in Physical Education for two hours each week that school is in session.

Department Requirements: Students having medical excuses from private physicians must present them at time of registration.

A student may elect more than one physical education course a semester and receive credit for it. A student must be enrolled in and pass a one-half unit physical education course each semester until graduation.

Regulation uniforms have been adopted to be worn by participants in the following physical education activities:

Bowling, Archery, Folk and Square Dance, Social Dance and Golf; sport clothes and low-heeled, rubber-soled shoes. (Approximate cost per semester for Bowling, $11; for Beginning Golf, $5.)

Fencing: white capris or long pants, white blouse, white socks, white tennis shoes.

Elementary Judo: sweat pants, white blouse, white socks and tennis shoes.

Modern Dance, Rhythmic Gymnastics: leotard and tights. (Shoes and skirt are optional.)

All other activities: regulation blue shorts and white shirt, white socks and white gym shoes. (Sweat shirts—blue, white or gray—are optional.)

Activities offered are listed below. Unless otherwise specified, there are no prerequisites. All classes meet two hours per week. Combination courses in the schedule (volleyball-basketball, etc.) will include approximately nine weeks of each of the two activities.

*1 AQUACADE PRODUCTION (½)

Prerequisite: Previous water show experience or synchronized swimming experience.

Designed for students interested in working on production of a spring water show. Will include water choreography, costuming, sets, lighting, make-up, sound, narration and improvement of individual synchronized swimming skills.

*Day College only.

Physical Education (Women) (continued)

***1 ELEMENTARY ARCHERY (½)**

Fundamentals of target shooting, care of equipment, safety rules, individual practice and team competition and tournaments.

***1 ELEMENTARY BADMINTON (½)**

Basic skills, strategy, theory and practice in badminton. Skills include serving, basic strokes, placement and practice in singles and doubles play. A doubles tournament is conducted in this course.

***1 INTERMEDIATE-ADVANCED BADMINTON (½)**

Prerequisite: Elementary Badminton class or permission from the instructor.

Designed to improve the intermediate and advanced player's skill, knowledge and enjoyment of the game. Emphasis on strategy, tactics, footwork, doubles teamwork and the singles game.

***1 ELEMENTARY BASKETBALL (½)**

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.

***1 INTERMEDIATE BASKETBALL (½)**

Prerequisite: Elementary basketball at CSM or one year high school basketball...

Includes basic skills of elementary basketball with emphasis on zone defense, game play and strategy.

***1 ADVANCED BASKETBALL (½)**

Prerequisites: Previous college basketball class or high school GAA; permission of instructor.

Advanced skills, techniques and strategies of women's basketball. Designed to challenge the advanced player as well as to provide her opportunity for inter-school games.

***1 BODY MECHANICS (½)**

Stress is placed on physical fitness. The course offers measurement in strength, endurance, flexibility and coordination. The course strives to offer the student a means of improving weaknesses in the previously mentioned areas, through specific activities designed to build improvement.

*Day College only.

Physical Education (Women) (continued)

***1 ELEMENTARY BOWLING (½)**

Fundamental skills will include approach, release and follow-through for a straight ball and a hook. The history, rules and scoring of bowling will also be included.

***1 ADVANCED BOWLING (½)**

Prerequisite: Must have at least a 110 average.

Course consists of coached league bowling.

Approximate cost, $11-$13 per semester.

***1 ELEMENTARY FENCING (½)**

Instruction and practice in elementary skills including form, attacks, parries, counter-attacks, timing and strategy. Also included are the history of the sport, safety, etiquette, rules, terminology, judging, directing and score keeping.

***1 FIELD SPORTS (½)**

Class may elect to cover one or more of the following sports: soccer, field hockey, speedball, speed-a-way and flagball. Instruction in basic skills, strategy and rules of the selected sport(s).

***1 FITNESS ACTIVITIES (½)**

Exercises ranging from mild to very active, individual fitness evaluation and all-around endurance. Designed to help the individual understand the need for and the benefits of physical fitness.

***1 ELEMENTARY GOLF (½)**

Instruction in fundamentals including grip, stance, swing, use of the various clubs, rules, scoring and the etiquette of the game. The class meets on campus. Outside assignments include practice sessions at a driving range and playing nine holes of golf.

Approximate cost per student is $6-$7 per semester.

***1 INTERMEDIATE GOLF (½)**

Prerequisite: Permission of instructor.

Emphasis on continued development of the basic golf fundamentals. Half of the semester is spent at the driving range and half on a golf course.

Approximate cost per semester is $11.

***1 ELEMENTARY JUDO (½)**

Consideration is given to the rules, procedures, techniques of falling, unbalancing, throwing techniques, combination techniques as related to physical development. The emphasis of this course is on Judo as a sport. Self-defense will not be a primary concern.

*Day College only.

Physical Education (Women) (continued)

***1 ELEMENTARY TRAMPOLINE (½)**

Trampoline activity on the elementary level—the fundamental bounces, safety provisions, drops, combinations, turns, twists, and some intermediate activity for those who qualify. A detailed testing program is given in all trampoline skills.

***1 RHYTHMIC GYMNASTICS (½)**

Dance movements using small hand apparatus as the focus point. Apparatus includes Swedish balls, jump ropes and Indian clubs. Individual, duo and group routines are composed and presented. In some classes, elementary tumbling and beginning free exercise are included.

***1 ELEMENTARY SOFTBALL (½)**

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.

***1 ADVANCED SOFTBALL (½)**

Prerequisite: One semester of college softball or instructor's permission.

Emphasis on advanced skills, techniques and strategies of women's softball. Designed to challenge the advanced player as well as to provide her opportunity for interschool competition.

***1 INTERMEDIATE SWIMMING (½)**

Prerequisite: Ability to swim in deep water comfortably.

Skills will involve the breast stroke, crawl, side stroke, elementary back stroke, treading, floating and elementary diving.

***1 SYNCHRONIZED SWIMMING (½)**

Prerequisites: Must be able to adequately perform the crawl, side stroke, back crawl, breast stroke, treading water and floating.

Course includes beginning, intermediate and advanced synchronized swimming figures, variations of standard swimming strokes, synchronization of skills to music, choreography and performing of group and solo routines.

***1 TEAM SPORTS (½)**

Basic skills, advanced techniques, rules and team play for a variety of team sports, including a field sport (hockey, speed-a-way or speedball, flagball) and basketball, volleyball or softball.

***1 ELEMENTARY TENNIS (½)**

Fundamentals, strokes, strategy and rules as related to ability level. The testing program includes written examination on rules and strategies, and skill tests on all techniques taught.

*Day College only.

Physical Education (Women) (continued)

***1 INTERMEDIATE-ADVANCED TENNIS (½)**

Prerequisite: Demonstration of ability in forehand, backhand and service.

The emphasis will be on net play and doubles and singles strategy.

***1 ELEMENTARY VOLLEYBALL (½)**

The volley, set, dig and hit will be the basic skills included. Rotation, rules and team play will be stressed. A tournament will conclude the semester activity.

***1 ADVANCED VOLLEYBALL (½)**

Prerequisite: One semester of college volleyball or instructor's permission.

Designed for students wishing more advanced play and skills of volleyball. Includes a quick review of the dig or bump, volley with footwork, overhand serve. The spike, block and tumble dig will be introduced. All of these skills will be incorporated into offensive and defensive court play.

***1 ELEMENTARY GYMNASTICS (½)**

Apparatus work at the elementary level. Apparatus will include balance beam, uneven parallel bars and women's vaulting horse. Coordination, balance and flexibility will be stressed. Opportunity is given the student to develop her creative ability in working out possible combinations and routines.

***1 INTERMEDIATE GYMNASTICS (½)**

Prerequisite: One semester of Beginning Gymnastics in high school or college, or permission of instructor.

Techniques of intermediate and advanced skills of the uneven parallel bars, balance beam, vaulting horse, tumbling and free exercise. The gymnasts will participate in inter-school meets held during the semester.

***1 TRACK AND FIELD (½)**

Designed to familiarize the students with the various track and field events open to women, to provide a training program for those events and to offer an opportunity to participate in the events.

***1 TUMBLING (½)**

Balances and rolls, followed by various turns, springs and combinations. These movements are performed forward, backward and sideward in trips progressing down the mat. Four required beginning trips are performed for the final class meet.

*Day College only.

Physical Education (Women) (continued)

***20a-b-c-d PHYSICAL EDUCATION COMPETENCIES (2-2-2-2)**

Six hours per week.

A series of planned activities designed to assist students majoring or minoring in Physical Education or Recreation to attain the skill level necessary to pass the upper division skill competency requirements of the four-year colleges and universities. Activities include aquatics, dance, gymnastics, individual sports and team sports.

One of this class series is offered each semester for four semesters.

Physical Education

§2 ADULT CONDITIONING ACTIVITIES (ADULT CO-ED) (½)

Three lab hours per week.

A course designed and structured for the adult male or female who is desirous of engaging in a program of exercise designed to promote cardiovascular and respiratory fitness. Course content includes instruction and participation in recreational activities as follows: badminton, volleyball and trampoline.

§90 INTRODUCTION TO RECREATION TECHNOLOGY (3)

Three lecture hours per week.

Prerequisite: A general interest in recreation and recreation work.

History of recreation; philosophy of recreation, public relations; personality traits and habits; the responsibilities of the recreation leader; the nature and psychology of leadership, the approaches to leadership; athletic activities; games; performing arts; recreation arts and crafts; social recreation; community service; arts and crafts; social recreation; community service; program planning; research and evaluation in recreation.

Physical Science

10 INTRODUCTION TO THE PHYSICAL SCIENCES (3)

Three lectures per week.

Open to all students except those who are currently enrolled in or have completed a college course in physics, astronomy or chemistry.

The basic physical laws of nature as described by the sciences of physics, astronomy and chemistry.

*Day College only.
§Evening College only.

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Physics

Instructors: Mr. R. Anderson, Mr. Tuttle, Mr. Clark, Mr. Zempel.

2a-2b GENERAL PHYSICS (4-4)

Three lecture hours and one three-hour lab period per week.

Evening College sections offered every two years.
Prerequisites: Elementary Algebra and Plane Geometry. (Physics 2a is prerequisite to Physics 2b.)

Lectures, with experimental demonstrations and laboratory, covering mechanics, heat and sound in the first semester, and magnetism, electricity, light and modern developments in the second semester. (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 hours, one recitation hour and one two-hour lab period per week.

Evening College sections offered in sequences of 4a-4b-4b every two years.

Prerequisites: 4a—One semester of calculus and concurrent enrollment in the second semester of calculus; 4b, and 4c—Physics 4a and two semesters of calculus and concurrent registration in the third semester of calculus.

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.

A description with experimental demonstrations of the more important phenomena of physics.

Open to all students except those who have had, or are taking Physics 2a or 4a.

Physiology

Instructor: Mr. Karl.

***1 INTRODUCTORY PHYSIOLOGY (5)**

Three lecture hours and two three-hour lab periods per week.

Prerequisites: One course selected from Biology 10a or 10b, Anatomy 1, Zoology 1a. A knowledge of elementary chemistry and physics is recommended.

A course designed to familiarize the student with the functions of the organs and systems of the human body. This course is for students of Nursing, Physiotherapy, Physical Education, Psychology and other related fields.

Police Science

Instructor: Mr. Schumacher.

9 INTRODUCTION TO LAW ENFORCEMENT (3)

Three lecture hours per week.

An orientation to the Police Science program as well as law enforcement as a profession and means of livelihood. This includes history and philosophy of law enforcement on the local, state and national levels. The employment opportunities and general requirements of the various law enforcement agencies. The problems facing law enforcement and the over-all crime picture in the United States. The general crime trends and crime rate for various sections of the country with special emphasis on California crime.

***50 PATROL PROCEDURES (3)**

Three lecture hours per week.

Prerequisite: Police Science 9 or concurrent registration in same.

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.

51a-51b CRIMINAL INVESTIGATION (3-3)

Three lecture hours per week.

Prerequisites: Sophomore standing; Police Science 9, 52 or 55, or consent of instructor.

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.

*Day College only.

Police Science (continued)

52 CRIMINAL LAW (3)

Three lecture hours per week.

Prerequisite: Police Science 9, or consent of instructor.

Reason for criminal laws, their source and function in our society. The structure, definitions and most frequently used sections of the California Penal Code. Classification of crimes, nature of crimes, intent involved in the commission of an offense, attempts, conspiracy and criminal responsibility.

55 CRIMINAL EVIDENCE (3)

Three lecture hours per week.

Prerequisites: Police Science 9 and 52, or concurrent registration in Police Science 52.

Definition of evidence from the California point of view; a brief overview of the federal point of view concerning evidence. Admissibility of evidence in criminal court cases; materiality and competency of evidence. Distinction between admissions and confessions; the exceptions to the hearsay rule; types of evidence.

56 RECORDS AND REPORT WRITING (2)

Two lecture hours per week.

Prerequisites: Sophomore standing; Police Science 9 and 52.

History of records and reports pertaining to police. Various types of files and their uses; the value of the file system as used in the Police Department of the state; the method of writing police reports, what material is important, what purpose the different reports will fill.

*59 JUVENILE PROCEDURES (3)

Three lecture hours per week.

Prerequisite: Police Science 9 or concurrent registration in same.

The position the 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.

60 TRAFFIC CONTROL (3)

Three lecture hours per week.

Prerequisite: Police Science 9 or concurrent registration in same.

Laws relating to the registration of a vehicle drivers license laws; Vehicle Code sections most often encountered and violated; regulation and traffic control; traffic accident investigation; traffic accident report forms, types and uses.

*Day College only.

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Police Science (continued)

63 CRIMINAL IDENTIFICATION (3)

Three lecture hours and one lab hour per week.

Prerequisite: Police Science 9.

Theory of and practice in fingerprint classification, describing persons, portrait parle, development of latent fingerprints, photography of fingerprints, and modus operandi in its application to individual significances. Photographic techniques; camera and darkroom procedures.

70 POLICE AND COMMUNITY RELATIONS (2)

Two lecture hours per week.

Prerequisites: Sophomore standing; Police Science major.

The role of the Police Department in the community government and the value of good public relations. The important role the racial problem plays in the Police Department's activities will be stressed.

71 POLICE ORGANIZATION AND ADMINISTRATION (2)

Two lecture hours per week.

Prerequisites: Sophomore standing; Police Science major.

The various functions of the police organization. The chain of command, span of control, functional supervision, unity of command and the purpose of the police organization.

***80 INTERNSHIP (2)**

Five hours per week—one hour classroom and four hours to be arranged.

Prerequisites: Sophomore standing, Police Science major and consent of instructor.

Student will do assigned tasks in a local police station as arranged with the respective department.

§90 PRINCIPLES OF LAW ENFORCEMENT (12)

Twenty hours per week for 14 weeks.

This course, which is restricted to police officers already employed in law enforcement jobs, includes the elements of investigations; report writing and descriptions; collection, identification and examination of evidence; elements of interrogation; police procedures; traffic accident investigation; jail procedure and custodial care; elements of fingerprinting.

§92 SUPERVISORY TRAINING (4)

Eighty hours.

For police personnel at the first level of supervision (Sergeant). No one other than regularly employed police personnel may attend.

Material covered is primarily concerned with the role of the sergeant as a leader, instructor, decision maker, and assistant in the decisions at the policy-making level.

*Day College only.
§Evening College only.

Political Science

Instructors: Mr. Richmond, Mr. Brown, Mr. Phipps, Mrs. Jeffers, Mr. Cate, Mrs. Justesen, Mr. Wagner, Mr. Clark, Mr. Davis, Mr. Clemens, Mr. Polansky.

*1 INTRODUCTION TO POLITICAL SCIENCE (3)

Three lecture-recitation hours per week.

Examination of the nature of the state, basic forms of government and the theories of democracy, communism, fascism and other political ideologies. Analysis of the roles of political parties and pressure groups as well as the nature of public opinion and voting behavior. Consideration of the character of modern public administration and a brief survey of the pattern of contemporary international relations.

*2 CONTEMPORARY FOREIGN GOVERNMENTS (3)

Three lecture-recitation hours per week.

Prerequisites: Polit. Sci. 1, 5, 21 or 25, or consent of instructor.

An introduction to the problems of comparative analysis of western and non-western political systems. The course emphasizes the interrelationships of social configuration, ideology, and governmental institutions. Case studies are utilized to assess methodological problems of comparative analysis: legitimacy and consensus, political dynamics, political institutions, political change and modernization.

3 INTERNATIONAL RELATIONS (3)

Three lecture-discussion hours per week.

The nature of relations among states, with analysis of the basic forces affecting the formulation of foreign policy and the dynamics of international politics. The evolution and operation of the United Nations Organization are a major topic of study.

*5 INTRODUCTION TO POLITICAL THEORY (3)

Three lecture 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.

*Day College only.

Political Science (continued)

*7 SURVEY OF PROBLEMS IN CIVIL LIBERTIES AND CIVIL RIGHTS (3)

Three lecture hours per week.

Prerequisite: Polit. Sci. 21 or the equivalent is strongly recommended.

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 laws; the interaction of the Supreme Court with the President, Congress, political parties and interest groups.

Satisfies the American Institutions requirement.

*9 CONTEMPORARY ETHNIC MINORITY POLITICS (3)

Three lecture hours per week.

Prerequisite: None. Polit. Sci. 1 or 23 recommended.

Analysis of general and specific political goals and methods of contemporary Afro-American, American Indian, Hispanic and Asian-American groups in the United States national, state and local politics. Specific emphasis will be focused upon political activities of formal and ad hoc minority group organizations in California and the Southwest during the 1950s and 1960s. The course will involve detailed exploration of the concepts of political and economic self-determination, ethnic bloc-voting, Black Power, Third World alliances, civil disobedience and other alternatives to violence.

12 STATE AND LOCAL GOVERNMENT (3)

Three lecture-discussion hours per week.

May be substituted for Polit. Sci. 23.

Among topics covered are: structure and operation of the governments of California at state and local levels; problems which transcend local boundaries and agencies which cope with them; processes of decision-making including roles played by political parties and interest groups; inter-relationships of local and state agencies, including tax allocations and limitations; and problems of adapting government to better meet urban needs.

21 AMERICAN INSTITUTIONS (3)

Three lecture-discussion 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.

*Day College only.

Political Science (continued)

***22 AMERICAN NATIONAL GOVERNMENT (3)**
Three lecture-discussion hours per week.

Covers in considerable detail the organization and the practical operations of the national government. Special emphasis is placed upon the study of civil rights and the current controversies and problems of their enforcement, the role of political parties and pressure groups, and policies and problems of the United States in the field of foreign relations.

23 CALIFORNIA STATE AND LOCAL GOVERNMENT (2)
Two lecture-discussion hours per week.

Designed to acquaint the student with the institutions and problems of state and and local government in California.

§24 CALIFORNIA URBAN GOVERNMENT (2)
Two lecture hours per week.

Prerequisite: None, but Polit. Sci. 21 is recommended.

A survey of the principal problems of urbanization and the growth of metropolitan communities with emphasis on the major issues of decision-making and administrative organization in California institutions requirements.

***25 NATIONAL, STATE AND LOCAL GOVERNMENT (5)**
Five lecture-discussion hours per week.

Prerequisite: None, but English 1a placement is highly recommended.

An introduction to the principles and problems of American government at the national, state and local levels. Intergovernmental relationships are 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 both the American Institutions and the California Institutions requirements.

Not open to students who have had Polit. Sci. 21 or 23 or comparable courses in American or state institutions.

Established primarily for students whose majors are Political Science, Pre-Law, Criminology and allied behavioral and social sciences.

***27 AMERICAN SOCIETY (5)**
Five lecture-discussion hours per week.

Prerequisite: Strictly limited to foreign students or recent immigrants.

An orientation course in American society and culture. It encompasses social, political and economic institutions as well as history. There will be 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, in addition to some of our cultural characteristics.

Meets the American Institutions and California Institutions requirements.

*Day College only.
§Evening College only.

Political Science (continued)

***39 INTERNATIONAL ORGANIZATION: UNITED STATES (3)**

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. At the conclusion of the course, a simulation exercise is conducted through participation in the Model United Nations of the Far West. Delegates are selected during the Fall semester.

***49 SPECIAL PROJECTS (1-2)**

Prerequisites: Previous work in Political Science, and the consent of the instructor and the Social Science Division Chairman.

Specified individual study or directed research in specific problem areas.

§51a-51b POLITICAL ORIENTATIONS IN THE MODERN WORLD (3-3)

Three lecture hours per week.

Analysis and discussion of the assumptions and attitudes underlying political behavior and their effects upon the world society. 51a covers domestic issues; 51b, foreign issues.

Psychology

Instructors: Mr. Saxton, Mr. Schwartz, Mr. Leach, Mr. Witt, Mr. Stoker, Miss Burdash, Mr. Keys, Mr. Kaufmann, Mr. McDonough, Mr. Kennelly, Mrs. Fisher, Mr. Samuels.

1a GENERAL PSYCHOLOGY (3)

Three hours of lecture per week.

An introduction to psychology, including such topics as motivation of behavior, emotion, learning and thinking, the basis of observation and the methods of measuring individual differences. Emphasis is placed upon experimental evidence.

***1b EXPERIMENTAL PSYCHOLOGY (3)**

Three lecture hours per week.

Prerequisite: Psych. 1a, with minimum grade of C. Psych. 7 is recommended.

Emphasizes the philosophy and aims of scientific inquiry and how it can be applied to answer questions in psychology. Students will carry out demonstration experiments to familiarize themselves with the methods discussed.

Recommended for Psychology majors.

*Day College only.
§Evening College only.

Psychology (continued)

4 COURTSHIP, MARRIAGE AND THE FAMILY (3)

Three hours of lecture per week.

The 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 CHILD DEVELOPMENT (3)

Three hours per week.

Prerequisite: Psych. 1a.

Consideration of social, emotional and intellectual development extending from the prenatal period through adolescence. Emphasis will be upon factors influencing the developing personality.

*6 SOCIAL PSYCHOLOGY (3)

Three hours of lecture per week.

Prerequisite: Psych. 1a or Sociology 1.

A study of human interaction, the effects of social influences on human behavior. Special attention will be given to social pressure and opinion change.

Identical to Sociology 6.

*7 BASIC STATISTICAL CONCEPTS (3)

Three 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. (Psych. 1a is recommended.)

An introduction to statistical concepts and techniques. This course will cover the basic descriptive techniques and statistical inferences used in the Behavioral Sciences.

Recommended for Psychology majors.

10 PSYCHOLOGY IN PRACTICE (3)

Three hours of lecture per week.

Intended for those who wish a general picture of human psychology but who do not want to take further courses in Psychology. Emphasis will be on the application of psychological principles to problems of everyday living rather than the technical-scientific approach of Psych. 1a.

*Day College only.

Psychology (continued)

14 GROUP DYNAMICS (2)

Three hours of group participation per week.

An opportunity for a small group of people to experience a group interaction within a relatively unstructured situation with a climate of maximum freedom for personal expression, exploration of feelings and interpersonal communication. The emphasis will be upon experience rather than theoretical and academic explanation of the group process.

33 PSYCHOLOGY OF ADJUSTMENT (3)

Three hours of lecture per week.

Prerequisite: Psych. 1a.

The study of the ways people adjust to their environments. Emphasis will be upon the ways personality develops and changes. Case illustrations and different theories of personality will be presented.

***48 SPECIAL TOPICS (3)**

Three lecture hours per week.

Prerequisite: Honor student standing or consent of instructor.

A seminar on topics of contemporary interest in psychology, designed to provide a means for discussing changing knowledge and important issues in psychology. Specific subject matter will vary and will be announced in advance.

***49 SPECIAL PROBLEMS (1-2)**

Admission by consent of instructor.

Special projects such as working with children at the San Mateo County Child Guidance Clinic.

§51 CHILD PSYCHOLOGY (3)

Three hours per week.

An introductory course dealing with the psychological phases of children's development for parents, teachers and others working with children.

§60a-60b—INTRODUCTION TO EARLY CHILDHOOD (3-3)

Two lecture hours and three laboratory hours per week.

Prerequisites: 60a—None; 60b—Psych. 60a.

60a—Techniques of observing and recording growth, development, learning and behavior of preschool children. The effects of differences in child rearing practices on the development of personality with consideration of the disadvantaged.

60b—Exploration of the nursery school curriculum, programs, teaching techniques, materials and equipment. Basic methods of relating to children, meeting their needs, working with their problems and providing for optimum growth and learning conditions in the nursery school.

*Day College only.
§Evening College only.

Psychology (continued)

§61a-61b NURSERY SCHOOL PRINCIPLES AND PRACTICES (3-3)

Two lecture hours and three laboratory hours per week by arrangement.

Prerequisites: 61a—Psych. 60a-b; 61b—Psych. 61a.

61a—Active participation in all aspects of the nursery school program under the close supervision of an experienced teacher. Planning, presenting and supervising nursery school activities, including long-range curriculum planning and programming. Interpretation and evaluation of experience as a student teacher aide in seminar as well as individual conference sessions.

61b—Principles and practices of creativity; the value of creative activities and experiences; creative expression in the nursery school through art, music, language, dance and science.

§62 CHILD, FAMILY AND COMMUNITY (3)

Three hours per week.

Designed for those who are working with or who are concerned with the education and welfare of preschool children. Patterns of family living in a democratic society and the role and interaction of members; varying factors affecting family life—racial, cultural, economic, social, urban and suburban; home-nursery relationships; community resources—health, welfare, education, counseling, guidance, recreation and religion.

Quality Control

§60 INSPECTION PRINCIPLES AND TECHNIQUES (3)

Three lecture hours per week.

Designed to provide experience with the various types of inspection equipment, their correct application, use and care; to establish the basic metrology principles of accuracy, repeatability, reference points, standards to quality control.

§61 INTRODUCTION TO QUALITY CONTROL (3)

Three lecture hours per week.

Designed for industrial technology personnel and supervision with no prior training in the field and a limited mathematical background.

§63 STATISTICAL CONCEPTS AND TECHNIQUES (3)

Prerequisite: Quality Control 61.

Three lecture hours per week.

Modern statistical quality control. Statistical measures, histogram analysis, construction and analysis of variable and attribute control charts; use of Dodge-Romig and military standards acceptance sampling plans; statistical aspects of tolerances. Emphasizes practical applications of techniques.

§Evening College only.

Real Estate

(See "Business.")

Social Science

***33 AFRO-AMERICAN CULTURE (3)**

Three lecture hours per week.

A contemporary view of Black America. Current political and social movements in Black communities with an emphasis on the urban area. The contemporary Black family and the culture of the contemporary Black community in present and historical perspective.

***48 PRACTICUM (3)**

Designed exclusively for tutors in the College Readiness Program.

Objective is to provide the tutoring skills necessary to assist students from culturally disadvantaged, lower income families in performing adequately in college level courses. The subject matter of the course will treat with teaching-learning problems and the social, economic and historical backgrounds relevant to these problems.

Sociology

Instructors: Mr. Witt, Mr. Kaufmann.

1 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, with close study of Negro-white relationships.

2 SOCIAL PROBLEMS (3)

Three class hours per week.

Prerequisite: Sociology 1 strongly recommended.

Theories of social problems involving functionalism and interactionism as opposed to individualistic 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, urbanism, poverty, minority groups, population and war. Collective behavior and scientific problem-solving approaches.

*Day College only.

Sociology (continued)

***3 MINORITIES IN AMERICAN SOCIETY (3)**

Three lecture hours per week.

Prerequisite: Sociology 1 or 2, or History 33 is recommended.

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.

***4 COURTSHIP, MARRIAGE AND THE FAMILY (3)**

Three hours of lecture per week.

The 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 Psych. 4.

***6 SOCIAL PSYCHOLOGY (3)**

Three hours of lecture per week.

Prerequisite: Psych. 1a or Sociology 1.

A study of human interaction, the effects of social influences on human behavior. Special attention will be given to social pressure and opinion change.
Identical to Psych. 6.

***12 URBAN SOCIOLOGY (3)**

Three hours of lecture per week.

Prerequisite: Sociology 1 or 2, or Geogr. 1b.

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.

Spanish

Instructors: Mr. Kaufman, Mrs. Sausjord, Mr. Hocker, Mr. Castillo.

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 an integral feature of the study of a foreign language at the College.

*Day College only.

Spanish (continued)

*1 ELEMENTARY SPANISH (5)

Five class hours and one lab hour per week.

Prerequisite: Eligibility for English A or grade of A or B in English 50a. Exception: Students who have had high school work in Spanish for two or more years with an average grade of C or better will be eligible to enroll in Spanish 1.

Spanish structures and active vocabulary based on oral and written pattern drills. Conversation based on short readings containing only structures already practiced.

*1a INTRODUCTION TO SPANISH (3)

Five class hours and one and one-half lab hours per week.

Prerequisite: None. The course is designed for students who prefer a slower introduction to Spanish.

Note: A student who has completed one year or more of any foreign language with a grade of B or better is not eligible to enroll in this course.

Pronunciation, oral and written practice of Spanish patterns. Learning of basic essentials.

*1b ADVANCED INTRODUCTION TO SPANISH (3)

Five class hours and one lab hour per week.

Prerequisite: Spanish 1a with a grade of C or better.

Continuation of Spanish 1a. Further study of Spanish patterns. Additional work on basic essentials.

Students who complete Spanish 1b with a grade of C or better will be eligible to take Spanish 2.

*2 ADVANCED ELEMENTARY SPANISH (5)

Five class hours and one lab hour per week.

Prerequisite: Spanish 1 with a passing grade or assignment by the Foreign Language Division on the basis of the Foreign Language Placement Test in Spanish. (It is inadvisable for a student who has received a semester grade of D in Spanish 1 to continue into Spanish 2.)

Continuation of Spanish 1. Reading of Spanish short stories to serve as a basis for classroom conversation.

*3 INTERMEDIATE SPANISH (4)

Four class hours and one lab hour per week.

Prerequisite: Spanish 2 with a passing grade or assignment by the Foreign Language Division 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.

*Day College only.

Spanish (continued)

***4 ADVANCED INTERMEDIATE SPANISH (3)**

Three class hours per week.

Prerequisite: Spanish 3 with a passing grade or assignment by the Foreign Language Division on the basis of the Foreign Language Placement Test in Spanish.

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.

***3n SPANISH FOR STUDENTS WITH SPANISH-SPEAKING BACKGROUND (3)**

Three class hours per week.

Prerequisite: 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.

***4n SPANISH FOR STUDENTS WITH SPANISH-SPEAKING BACKGROUND (3)**

Three class hours per week.

Prerequisite: Ability to converse in Spanish.

A continuation of 3n. Reading of contemporary Latin-American plays and novels; further study of vocabulary and usage, having as the goal the speech of the graduate of a Latin-American high school.

***8a-8b SPANISH CONVERSATION (2-2)**

Two class hours per week.

Prerequisites: Spanish 4 or Spanish 3 and permission of the instructor.

Practice in conversation based on Spanish customs and culture. Students are urged to make use of the College language laboratory.

***25a-25b ADVANCED SPANISH (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 study of a review of grammar.

***30 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 or permission of the instructor.

Reading of Spanish and Latin-American classics and contemporary literature.

*Day College only.

39 Contemporary Latin Am. Lit. Sp. only (3)

Spanish (continued)

§100a CONVERSATIONAL SPANISH, ELEMENTARY (2)

Three class hours per week.

A practical course in the Spanish 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.

This course will not fulfill language requirement at California State Colleges or at the University of California.

§100b CONVERSATIONAL SPANISH, ADVANCED ELEMENTARY (2)

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 CONVERSATIONAL SPANISH, INTERMEDIATE (2)

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 CONVERSATIONAL SPANISH, ADVANCED INTERMEDIATE (2)

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

Instructors: Mrs. Ruffin, Mr. Olson, Mr. Hansen, Mr. Prindle, Mrs. Lehman, Mrs. Mullaney, Mr. Short, Mr. Speer.

1a FUNDAMENTALS OF SPEECH AND PERSUASION (3)

Three hours per week.

Prerequisite: Eligibility for English A or English 1a.

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.

§Evening College only.

Speech (continued)

2a-2b FUNDAMENTALS OF ORAL INTERPRETATION OF LITERATURE (3-3)

Three class hours per week.

Prerequisite: 2a—Eligibility for English 1a; Speech 2b—Speech 2a.

The 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.

***4 ARGUMENTATION AND DEBATE (3)**

Three class hours per week.

Prerequisite: Speech 1a or permission of the instructor.

A course in the principles and techniques of argumentation and debate, research in significant social problems; analysis of issues, evidence and logic; oral presentation of arguments on research and organized reasoning.

***5 FORENSICS PARTICIPATION (½-1)**

Participation in approved intercollegiate forensic contests.

May be repeated for credit.

***27 DISCUSSION AND PARLIAMENTARY PROCEDURE (3)**

Three class hours per week.

Prerequisite: Eligibility for English A or for university credit courses.

The study of the philosophy and practices of group discussion. The study and use of parliamentary procedures.

33 VOICE AND ARTICULATION (3)

Three class hours per week.

Prerequisite: Eligibility for English A or permission of the instructor.

An 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.

49 SPECIAL PROJECTS (1-2)

Hours by arrangement.

Prerequisites: Sophomore standing and permission of the Chairman of the English Division.

Students will investigate a topic in speech beyond the scope of present courses and present it in either project or written form.

*Day College only.

Speech (continued)

***57a-57b SPEECH FOR FOREIGN STUDENTS (3-3)**

Three class hours per week.

Prerequisite: Placement in English 57a-b or permission of the instructor.

Practice in pronunciation and diction, usage; extemporaneous speaking.

62 ELEMENTS OF SPEECH (3)

Three class hours per week.

Frequent practice in extemporaneous speaking; exercises in fact-finding, language usage, pronunciation and diction. Emphasis is on individual abilities and needs in achievement of effective oral communication in daily life, business situations and community activities.

Student Government

1-2 STUDENT GOVERNMENT (1-1)

Attendance at weekly Student Council Meetings and individual work by arrangement.

Designed to assist Student Council members, commissioners, club officers, and other interested students in acquiring background and skills for effective participation in activities. Students may select and investigate relevant topics of special interest.

Technical Illustration

Instructors: Mr. De Hart, Mr. Schoenstein.

***52a TECHNICAL ILLUSTRATION (5)**

Five three-hour periods per week.

Prerequisite: Concurrent enrollment in T.I. 54 or permission of instructor.

Lettering, sketching, mechanical drawing, geometric construction, descriptive geometry including auxiliary projection, dimensioning of working drawings, charts and graphs, use of diazzo check prints.

***52b TECHNICAL ILLUSTRATION (5)**

Five three-hour periods per week.

Prerequisite: T.I. 52a or permission of instructor.

Comprehensive working drawings involving threads and fasteners, tolerance dimensioning, intersections of planes in solids, developments, pictorial projections and assembly drawings.

*Day College only.

Technical Illustration (continued)

***53a TECHNICAL RENDERING (1)**

One three-hour period per week.

Prerequisite: Concurrent enrollment in T.I. 52a or permission of instructor.

Study of light, shade and texture in relation to mechanical forms.

***53b TECHNICAL RENDERING (1)**

One three-hour period per week.

Prerequisite: T.I. 53a or permission of instructor.

Continuation of T.I. 53a with emphasis on ink line techniques.

***54 GRAPHIC DESIGN (2)**

Two three-hour periods per week.

Prerequisite: Concurrent enrollment in T.I. 52a or permission of instructor.

Development of the creative approach to graphic design by the technical artist.

***55 VISUAL PRESENTATION (2)**

Two three-hour periods per week.

Prerequisite: Concurrent enrollment in T.I. 52b or permission of instructor.

Ideas will be developed and presented in graphic form, using appropriate visual techniques.

***62a TECHNICAL ILLUSTRATION (5)**

Five three-hour periods per week.

Prerequisite: T.I. 52a-b or permission of instructor.

Working from sketches, blueprints, photographs and actual objects, the student produces technical illustrations, using appropriate techniques and types of projection.

***62b TECHNICAL ILLUSTRATION (5)**

Five three-hour periods per week.

Prerequisite: T.I. 62a or permission of instructor.

Continuation of T.I. 62a with emphasis on development of a professional portfolio by each student.

***63 REPRODUCTION PROCESSES (2)**

Two three-hour periods per week.

Prerequisite: Concurrent enrollment in T.I. 62a or permission of instructor.

An introduction to commercial reproduction processes. Lecture and laboratory sessions on ditto, mimeo, diazzo, offset press and lithography. Field trips to Bay Area printing plants are included.

*Day College only.

Technical Illustration (continued)

***64 PRODUCT DESIGN (2)**

Two three-hour periods per week.

Prerequisite: Concurrent enrollment in T.I. 62b or permission of instructor.

An introduction to the sequence involved in product design. Laboratory experiences with the development of an industrial design. Emphasis on the relationship of technical illustrator to industrial designer.

§100 INTRODUCTION TO TECHNICAL ILLUSTRATION (3)

Two three-hour periods per week including two hours of lecture and four hours of lab.

Prerequisite: Knowledge of drafting fundamentals as shown by portfolio, or permission of instructor.

To provide students with information and experience in the creation of technical illustrations.

Technology

Instructors: Mr. Fine, Mr. Owen, Mr. Coulson, Mr. DeFreitas, Mr. Martin, Mr. Chowenhill, Mr. Schoenstein.

***71 SCIENCE FOR TECHNICIANS (3)**

Three lecture hours per week.

Prerequisite: Consent of instructor.

A study of applied physics phenomena as related to simple devices including forces, stress, moments acceleration, velocity, friction, energy; applied chemical phenomena including the properties of bases and acids, oxidation and reduction, and properties of common elements in industry.

***72 INDUSTRIAL MATERIALS (2)**

Two lecture hours per week.

Prerequisite: Concurrent enrollment in Technology 74.

A required related course of instruction for several departments in the Technician Division. Study of metals common to industry, basic mining techniques, structures, physical and chemical properties and uses. Involves study of lattice structure, alloy systems, mechanical tests and characteristics of strength, elasticity, ductility, malleability, etc., heat treatment and surface coatings. Plastics, rubber, glass and ceramics as they apply to industry.

*Day College only.
§Evening College only.

Technology (continued)

***73 ELECTRONICS FOR TECHNICIANS (2)**

Two lecture periods per week.

Prerequisite: Consent of the instructor.

A study of basic electronic devices with special attention to characteristics of components, basic circuitry, placement of components and design factors that must be considered by the draftsman.

***74 INDUSTRIAL PROCESSES (3)**

Three lecture hours per week.

A required related course of instruction in several departments in the Technician Division. Designed to extend the students' background of related information pertaining to the 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.

***75 WELDING FOR TECHNOLOGY (2)**

One lecture and one three-hour shop period per week.

Prerequisite: Consent of the instructor.

A related course of instruction designed to assist the student who is not a Welding major in understanding the theories of oxyacetylene, bronze, arc and TIG welding, silver brazing with emphasis on associated equipment and supplies.

***76 MACHINE SHOP FOR TECHNOLOGY (2)**

One lecture and one three-hour shop period per week.

Prerequisite: Consent of the instructor.

Basic bench work in steels and aluminum, drilling, taping, reaming, lathe operation and advanced work according to the student's ability.

***77 BLUEPRINT READING (2)**

Two lecture hours per week.

Reading and interpretation of blueprints with emphasis on multiview drawings, tolerances, manufacturing methods, free-hand sketching of parts, jigs and fixtures.

***78 TECHNICAL REPORTING (3)**

Three lecture hours per week.

A course designed primarily for technician students, preparing them to communicate more effectively through memoranda, letters, technical reports, specifications, monographs and oral technical presentations. Some attention will be given to interviewing and research for technical reporting.

Required for students majoring in Technical Illustration.

*Day College only.

Technology (continued)

90a-90b ELEMENTS OF SURVEYING (3-3)

Taught by Engineering staff. For content and prerequisite, see Engin. 90a-90b.

§191 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 experience in the field of surveying, or permission of the instructor.

Course is designed for persons employed in surveying who wish to take formal instruction in preparation for the California State Land Surveying License examination. Particular emphasis will be placed upon boundary control and legal principles of surveying.

§192 LAND SURVEYING LICENSE (PUBLIC LANDS) (3)

Three lecture hours per week.

Prerequisite: Tech. 191 or activity in land surveying, title insurance or other related field, or permission of the instructor.

Course is designed for persons employed in surveying who wish to take formal instruction in preparation for the California State Land Surveying License examination. Particular emphasis will be placed upon U. S. Government lands and property location.

Telecommunications

Instructors: Mr. Wiens, Director, College of the Air; Mr. Montgomery, Chairman, Telecommunications Department; Mr. Odum, Mr. Boone, Mr. Hecomovich, Mr. Prindle, Mr. Nelson, Mr. Vainowski.

***15 TELEVISION NEWS PRODUCTION (3)**

One lecture hour and two three-hour lab periods per week.

Prerequisite: Permission of the instructor.

Technical production and writing of television news programs to meet the standards for a career in the television field. Students will be members of the production staff, technical and editorial, and of the television news program.

***51 BROADCASTING COMMUNICATIONS (3)**

Three lecture hours per week.

An introduction to the radio and television broadcasting industry, its nature, organization, history, operation, regulation, programming and business procedures. A study of educational broadcasting is also included.

*Day College only.
§Evening College only.

Telecommunications (continued)

52a-52b RADIO STUDIO TECHNIQUES (3-3)

One lecture hour and two three-hour lab periods per week. (Lab periods to be arranged.)

Prerequisite: 52a—none; 52b—Telecommunications 52a.

The study of the basic practices and procedures in radio broadcasting such as the proper use of microphones, operation of audio mixing consoles, tape recorders and other common broadcast equipment with emphasis on combo- and engineer-announcer types of programs. The students will operate the radio broadcast station KCSM-FM and the television broadcast station KCSM-TV as part of their laboratory assignment.

***54a-54b RADIO CODE AND AMATEUR LICENSE (2-2)**

Three hours code practice and one three-hour lab period per week.

Instruction in recognition of the various characters of Morse Code. Practice in pencil copy of incoming tape and hand-sent material, and in sending code. Theory instruction will be toward passing the written FCC examination.

60a-60b TELEVISION STUDIO TECHNIQUES (3-3)

One lecture hour and two three-hour lab periods per week. (Lab periods to be arranged.)

Prerequisite: 60a—none; 60b—Telecommunications 60a.

A study of the equipment used in a television studio with emphasis on lighting, camera operation, audio control board operation, video mixing, video tape recording and production work. The students will operate the radio broadcast station KCSM-FM and the television broadcast station KCSM-TV as a part of their laboratory assignment.

61a-61b-61c PROJECTS IN RADIO-TV PRODUCTION (3-3-3)

One lecture hour and two three-hour supervised periods per week.

Prerequisites: Telecommunications 52a-52b, or 60a-60b, or 101a-101b, and permission of instructor.

An introduction to radio and television production with supervised activity in the planning of program material and program production. Productions that are suitable for broadcasting and televising will be produced over the radio broadcast station KCSM-FM and the television broadcast station KCSM-TV.

***65a-65b COMMERCIAL LICENSES (3-3)**

Two lecture hours and two two-hour lab periods per week.

The basic material covered will be that outlined by the Federal Communications Commission as a study guide for the second-class and first-class telephone license.

*Day College only.

Telecommunications (continued)

*66 RADIO ANNOUNCING AND MICROPHONE TECHNIQUES (3)

Two class hours per week and one additional hour per week by arrangement.

Theoretical introduction of the basic announcing skills, basic principles of effective speaking, development of critical listening, analysis and evaluation of speeches, practice in reading typical kinds of radio copy, practice in speaking ad lib, announcing and microphone techniques developed through regular use of the radio broadcasting equipment.

§67a-67b RADIO AND TELEVISION ANNOUNCING (3-3)

One lecture-discussion hour and two three-hour lab periods per week. (Lab periods to be arranged.)

Prerequisites: Telecommunications 51 and Telecommunications 66 or professional experience with permission of instructor.

Practice in announcing news, commercial material and music continuity, ad lib announcing, control room operation, application of Federal Communications Commission logging rules and international phonetic alphabet. The lecture-discussion will be a critical analysis of the announcing performance of the students. The students will do the major portion of the announcing in the radio broadcast station KCSM-FM and the television broadcast station KCSM-TV as part of their laboratory assignment.

§70 MOTION PICTURE PRODUCTION TECHNIQUES (3)

One lecture hour and two three-hour lab periods per week.

Prerequisite: Permission of the instructor.

An introduction of the basic photographic and cinematographic techniques used in television and motion picture production. The course will include graphics for television, lighting sound-on-film techniques and newsfilm techniques, including script writing. The student will devote part of his laboratory work to outside on-location photography.

A lab fee will be charged for supplies.

*71 RADIO AND TELEVISION NEWS EDITING AND WRITING (3)

Three lecture hours per week.

Prerequisite: Eligibility for English 1a.

Three hours of lecture devoted to instructing the student in handling of wire copy, rewriting, the 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.

*Day College only.
§Evening College only.

Telecommunications (continued)

***72 TELEVISION NEWS PRODUCTION (3)**

One lecture hour and two three-hour lab periods per week.

Prerequisite: Permission of the instructor.

Technical production and writing of television news programs to meet the standards for a career in the television field. Students will be members of the production staff, technical and editorial, and of the television news program.

§101a-101b RADIO AND TELEVISION TECHNICAL OPERATIONS AND MAINTENANCE (3-3)

One lecture hour and two three-hour lab periods per week. (Lab periods to be arranged.)

Prerequisites: Adequate background experience and permission of instructor.

Construction, installation and maintenance of equipment used in the radio broadcast station KCSM-FM and the television broadcast station KCSM-TV, and related studio equipment, including lighting, microphone circuits, intercommunication equipment, audio and video console equipment, video tape recorders. FM transmitters and television transmitters.

§104a-b RADIO CODE - AMATEUR LICENSE (2-2)

(See "Electronics Technology.")

§105a-b COMMERCIAL LICENSES (3-3)

(See "Electronics Technology.")

Trade and Industrial

Classes of related training are offered for indentured apprentices in certain trades as indicated below in the courses numbered 70 and over. These classes follow the course outlined by the State Bureau of Apprenticeship Standards and are open only to indentured apprentices.

§55a-55b BLUEPRINT READING (1-1)

Three hours per week.

Training in the understanding of basic principles underlying the use of various lines, symbols, signs, and other techniques by the draftsman. Development in the ability to visualize various construction or fabricating processes required to construct the building as designed.

*Day College only.
§Evening College only.

Trade and Industrial (continued)

§62 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 obligations to his clients.

§63a, 63b, 63c, 63d, 63e, 63f BUILDING INSPECTION (3-3-3-3-3-3)

§85 CARPENTRY (APPRENTICESHIP) (1)

§87 ELECTRICAL WIRING (APPRENTICESHIP) (1-2½)

§91 PLUMBING (APPRENTICESHIP) (1-3½)

§95 TOOL AND DIE MAKING (APPRENTICESHIP) (1)

§97 SHEETMETAL (APPRENTICESHIP) (1-2½)

Urban Planning

***50a SURVEY OF URBAN PLANNING (3)**

Three class hours per week.

Survey of the historical development of urban areas and the physical, social and economic problems relating to them; city planning concepts directed to improving the urban environment.

***50b SURVEY OF URBAN PLANNING (3)**

Three class hours per week.

Prerequisite: Urban Planning 50a.

Basic concepts and recent trends in planning for the physical development of cities and regions. Agencies and procedures concerned with plan preparation and implementation.

***51a-51b DESIGN OF URBAN AREAS (3-3)**

Three lecture hours per week.

Prerequisite: Urban Planning 50a-b, or consent of instructor.

The preparation of general plans, including surveys to determine economic prospects and studies of population including data on age and type of person and minority groups, and physical surveys based on aerial photographs, topographical and street maps. Based on this data showing developed and undeveloped land, number, type and location of proposed recreation areas can be determined.

*Day College only.
§Evening College only.

Urban Planning (continued)

***52 DEVELOPMENTS PLANNING (2)**

Two lecture hours per week.

Prerequisite: Concurrent enrollment in Urban Planning 51a or 51b is recommended.

How to lay out a subdivision. Analysis of neighborhood patterns (which focus on elementary schools), of shopping centers, apartment complexes, industrial parks and recreational areas.

***53a PLANNING ADMINISTRATION (2)**

Two class hours per week.

Principles and methods of zoning, subdivision regulations and other techniques of plan effectuation.

***53b PLANNING ADMINISTRATION (3)**

Three lecture hours per week.

Prerequisites: Urban Planning 50a and 53a.

A study of zoning and subdivision ordinances as legal instruments whereby planning may be effectuated. This operation involves coordination between the planning department and the building and engineering departments under the direction of the planning commission and city manager.

§60 URBAN PLANNING (3)

Three class hours per week.

A study of current and future problems involved in community planning. Planning agencies, BART, planning and zoning regulations, apartment and home design trends. Conservation of trees and mountains, urban aesthetics.

Welding Technology

Instructors: Mr. De Freitas, Mr. Owen, Acting Chairman; Mr. Coulson, Mr. Martin.

***51 APPLIED WELDING MATHEMATICS (3)**

Three lecture hours per week.

Areas, volumes, logarithmic calculations, slide rule calculations and weight; fundamentals of algebra, calculation of irregular areas and volumes.

***52a-52b ELEMENTARY WELDING THEORY (3-3)**

Three lecture hours per week.

Prerequisite: W.T. 52a—none; W.T. 52b—completion of W.T. 52a.

Introduction to gas and conventional arc welding of ferrous and non-ferrous metals, brazing and other methods of joining metals.

Welding Technology (continued)

***52aL-52bL ELEMENTARY WELDING PRACTICE (4-4)**

Four three-hour periods per week.

Prerequisite: W.T. 52aL--none; W.T. 52bL—completion of W.T. 52aL.

Practical experience in gas and conventional arc welding of ferrous and non-ferrous metals, brazing and other methods of joining metals.

***62a-62b ADVANCED WELDING THEORY (3-3)**

Three lecture hours per week.

Prerequisite: W.T. 52a-b.

TIG (Heliarc), MIG welding with emphasis on exotic metals and other advanced problems in all phases of welding.

***62aL-62bL ADVANCED WELDING PRACTICE (5-5)**

Three four-hour periods and one three-hour period per week.

Prerequisites: Concurrent enrollment in W.T. 62a-b.

Practical experience in TIG (Heliarc), MIG welding with emphasis on the exotic metals and other advanced problems in all phases of welding. Practical experience in job estimating and production welding techniques as well as maintenance welding techniques.

§102a-102b ARC WELDING TECHNOLOGY (2-2)

One hour of lecture and three hours of laboratory per week.

Prerequisites: 102a—Permission of the instructor, or Tech. 165, or Tech. 75; 102b—W.T. 102a.

Designed to prepare a student for entrance into industry. All aspects of arc welding with various metals are thoroughly covered. Conventional arc welding in the flat and vertical positions is covered in 102a. Low hydrogen welding in the flat and vertical positions is covered in the 102b section. Basic metallurgy is included to broaden the training program.

§103a-103b TIG WELDING TECHNOLOGY (2-2)

One hour of lecture and three hours of laboratory per week.

Prerequisites: 103a—Permission of the instructor, or Tech. 165, or Tech. 75; 103b—W.T. 103a.

Designed to prepare a student for entrance into industry. Welding of aluminum is covered in the 103a section and welding of steel and stainless steel is covered in the 103b section. The types of weldments made are corner, fillet and butt. Basic metallurgy is included to broaden the training program.

*Day College only.
§Evening College only.

Zoology

Instructors: Mr. Kolber, Mr. Joslin.

*1a GENERAL ZOOLOGY (5)

Prerequisite: Satisfactory completion of a High School or College-level General Biology course.

An introduction to the facts and principles of animal biology, with special reference to the lower forms of animals. This course will include a molecular approach to zoology including morphology, energetics, genetics and morphology. Some discussion of evolutionary concepts will be included.

*1b GENERAL ZOOLOGY (5)

Three lecture hours and two three-hour lab periods per week.

Prerequisite: Zoology 1a with a grade of C or better.

A continuation of Zoology 1a devoted largely to the comparative anatomy of the chordates.

*Day College only.

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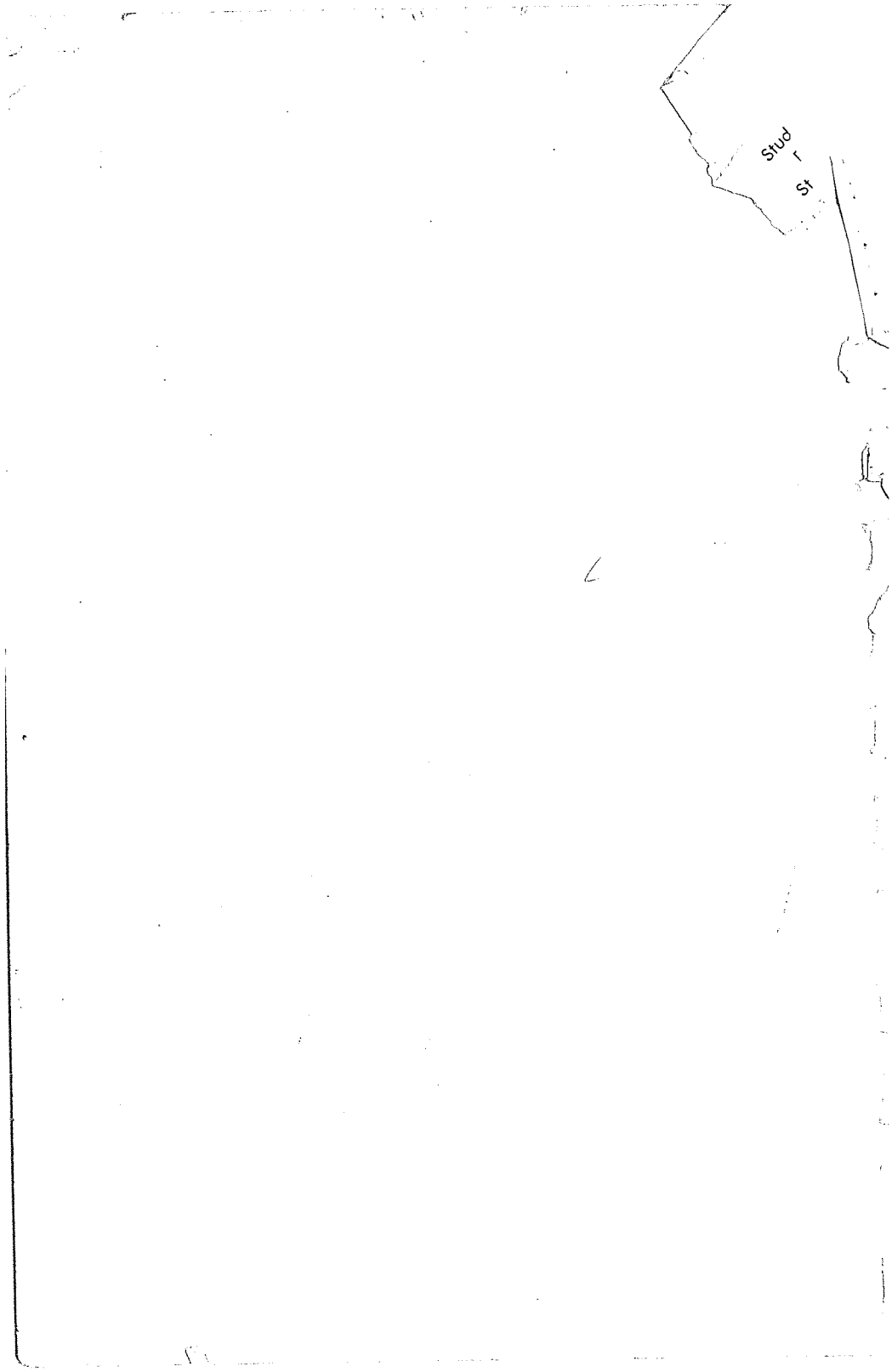
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