

TEMPE



Arizona  
State  
College

BULLETIN • CATALOG ISSUE 1955-56 • 1956-57

NEW SERIES

MARCH, 1955

NO. 15

# ARIZONA STATE COLLEGE BULLETIN

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NEW SERIES No. 15

MARCH, 1955

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Grady Gammage, Ed.D., LL.D., President of the College

Harold D. Richardson, Ph.D., Academic Vice President

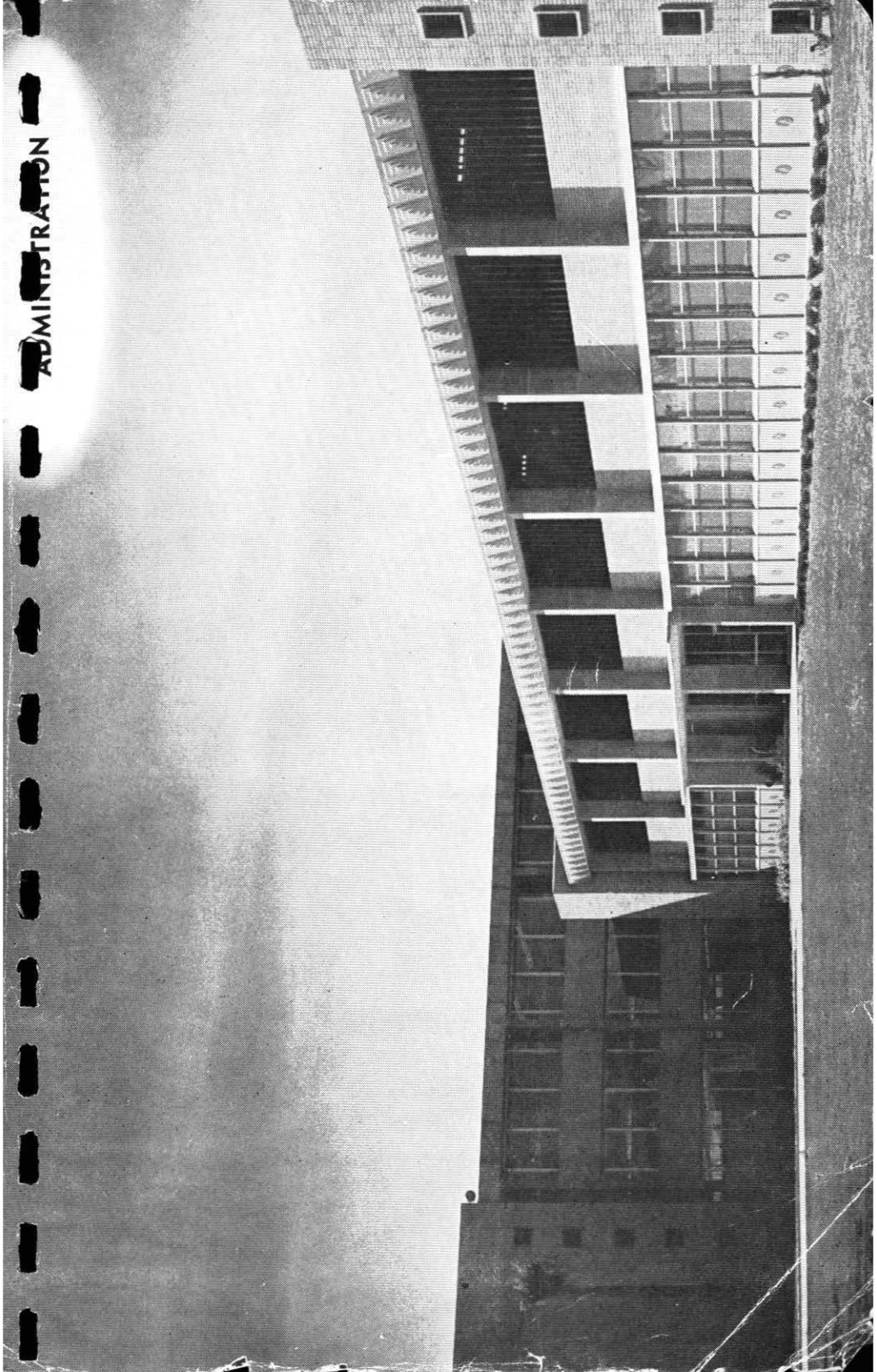


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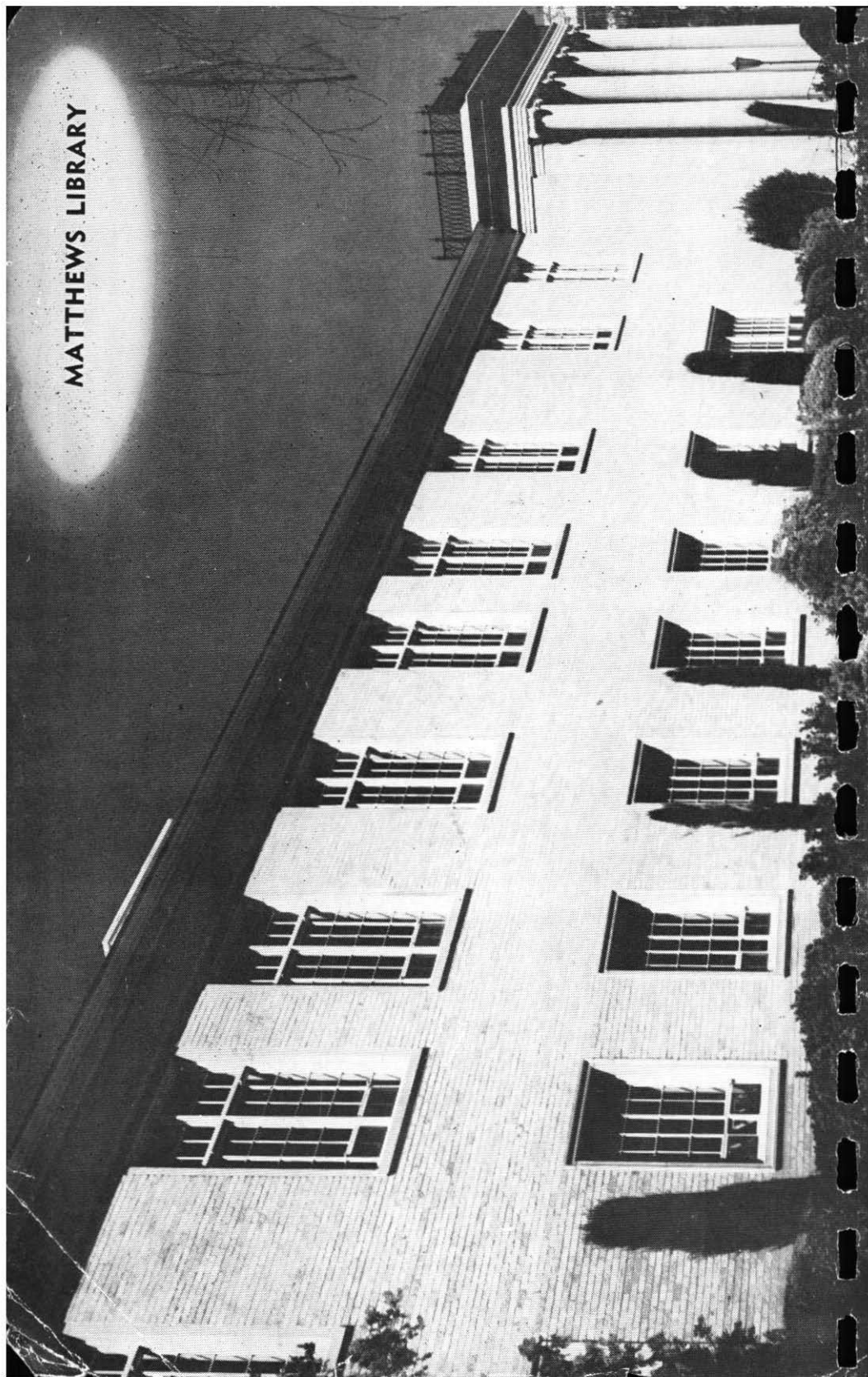
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ADMINISTRATION

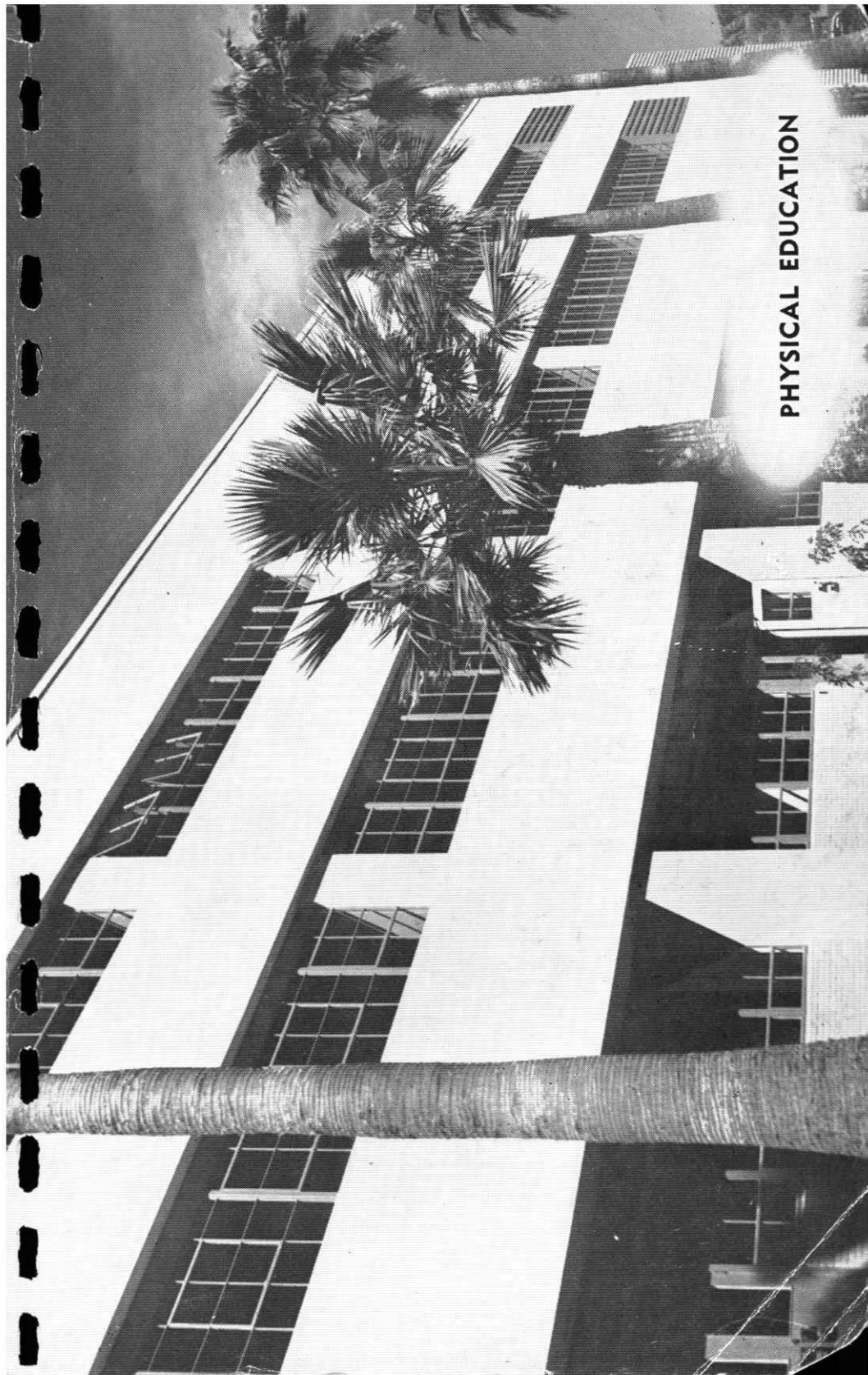


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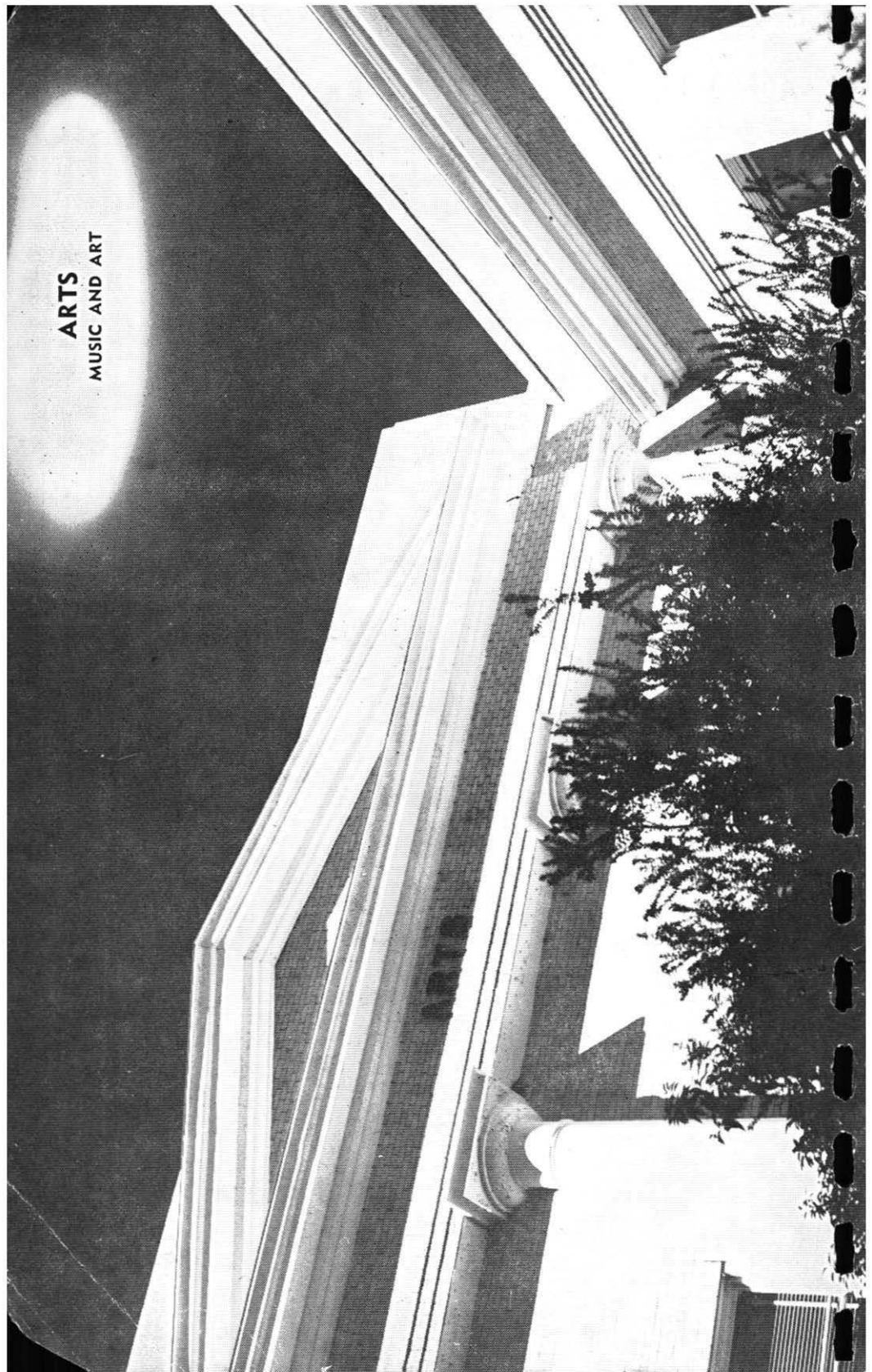




PHYSICAL EDUCATION



**ARTS**  
MUSIC AND ART

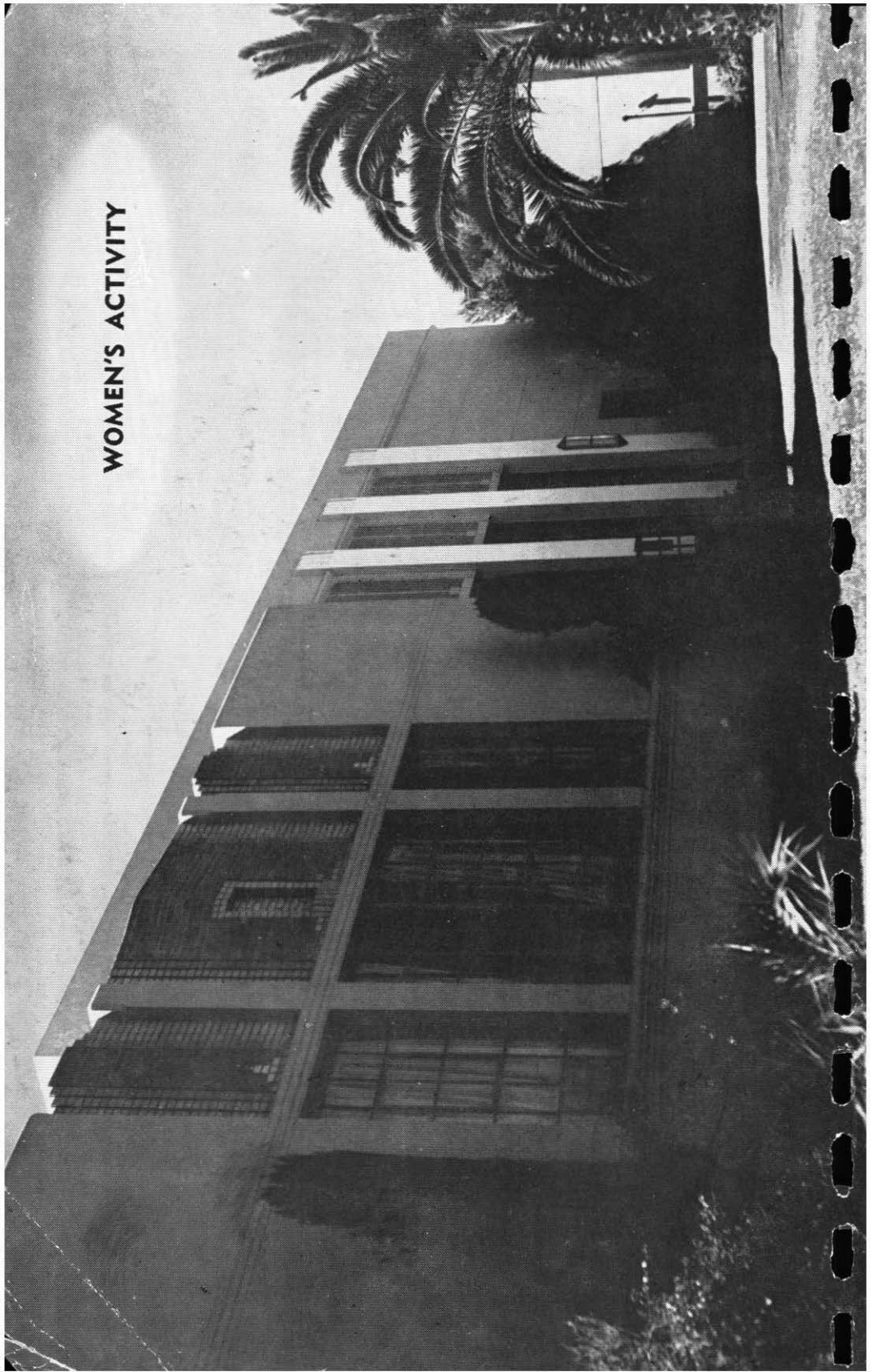




**BUSINESS ADMINISTRATION**  
and **AGRICULTURE**



WOMEN'S ACTIVITY

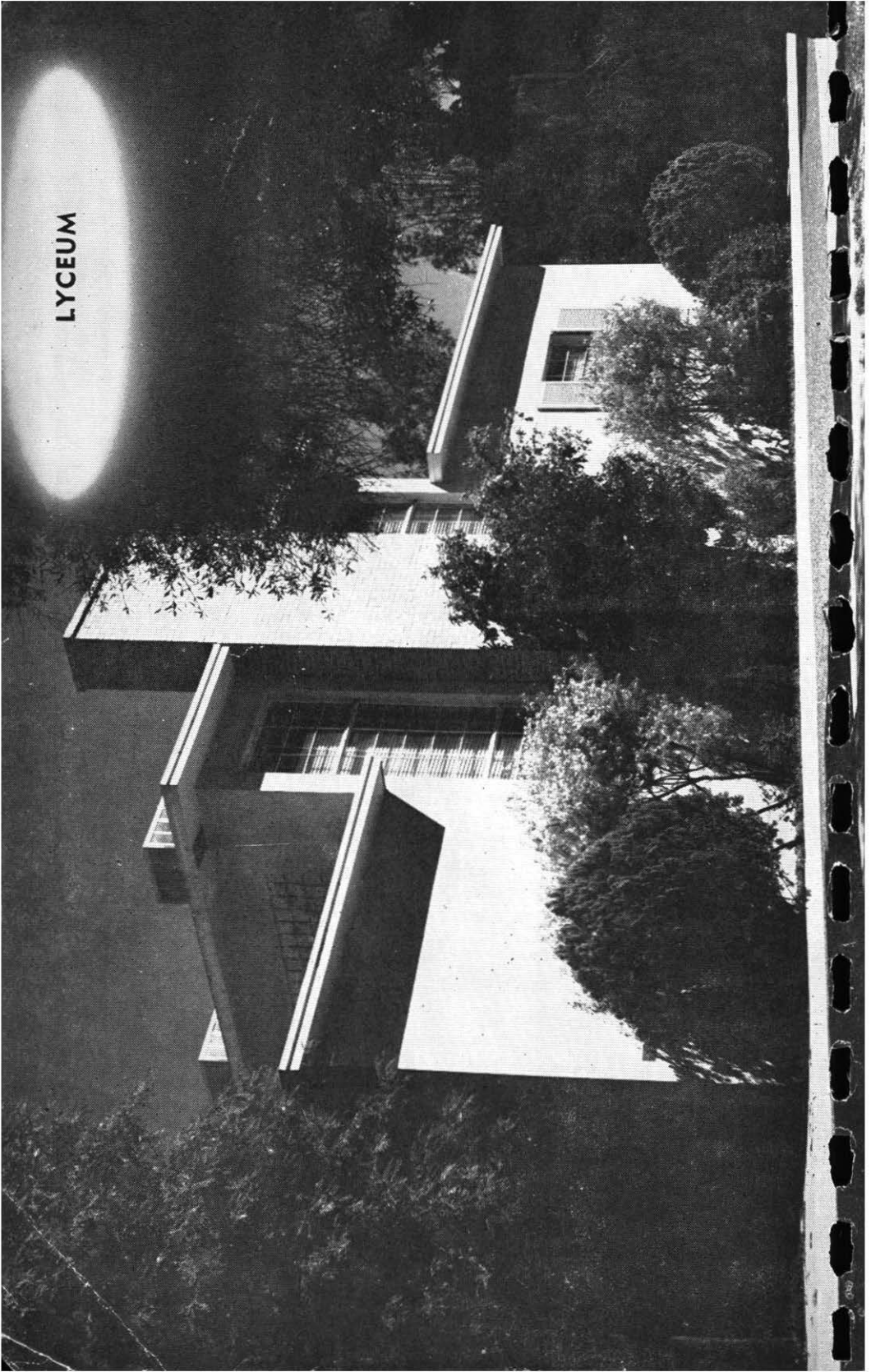






HOME ECONOMICS

LYCEUM





TEMPE

44

Arizona  
State  
College

BULLETIN · CATALOG ISSUE 1955-56 · 1956-57

NEW SERIES

MARCH, 1955

NO. 15

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# College Calendar

## 1955-56                      1956-57

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### Fall Semester

	1955-56	1956-57
Residence Halls and Dining Hall Open.....	Sept. 11, Su.	Sept. 9, Su.
First Freshman Assembly.....	Sept. 12, M., 8:30 a.m.	Sept. 10, M., 8:30 a.m.
Orientation and Guidance for Freshmen.. (All Freshmen are expected to be in attendance on these days for the special orientation programs, aptitude tests, and physical examinations.)	Sept. 12, 13, 14, M., Tu. W.	Sept. 10, 11, 12, M., Tu. W.
Freshmen Students Will Complete Registration and Pay Fees.....	Sept. 16, F., to Noon Sa., Sept. 17	Sept. 14, F., to Noon Sa., Sept 15
Sophomores, Juniors, Seniors, and Graduates Receive Registration Materials and Complete Registration.....	Sept. 15, 16 to Noon Sa., Sept. 17	Sept. 13, 14 to Noon Sa., Sept 15
Instruction Begins.....	Sept. 19, M.	Sept. 17, M.
Faculty Planning Conference.....	Sept. 17, Sa.	Sept. 15, Sa.
Last Day of Registration for Credit.....	Oct. 1, Sa. Noon	Sept. 29, Sa. Noon
Deficient Scholarship Reports Due.....	Nov. 10, Th., 4:00 p.m.	Nov. 9, F., 4:00 p.m.
Armistice Day, No Classes.....	Nov. 11, F.	Nov. 11 (12), M.
Candidates for Bachelor's Degrees Must File Application for Graduation by.....	Nov. 15, Tu.	Nov. 13, Tu.
Thanksgiving Recess .....	Nov. 23, W., 10:00 p.m. to Nov. 23, M., 8:00 a.m.	Nov. 21, W., 10:00 p.m. to Nov. 26, M., 8:00 a.m.
Christmas Vacation .....	Dec. 21, W., 10:00 p.m. to Jan. 5, Th., 8:00 a.m.	Dec. 19, W., 10:00 p.m. to Jan. 3, Th., 8:00 a.m.
Final Examinations .....	Jan. 20, 23, 24, 25, 26, F., M., Tu., W. Th.	Jan. 18, 19, 20, 21, 22, F., M., Tu., W., Th.
First Semester Grade Reports Due.....	Jan. 27, F., 4:30 p.m.	Jan. 25, F., 4:30 p.m.



## Spring Semester

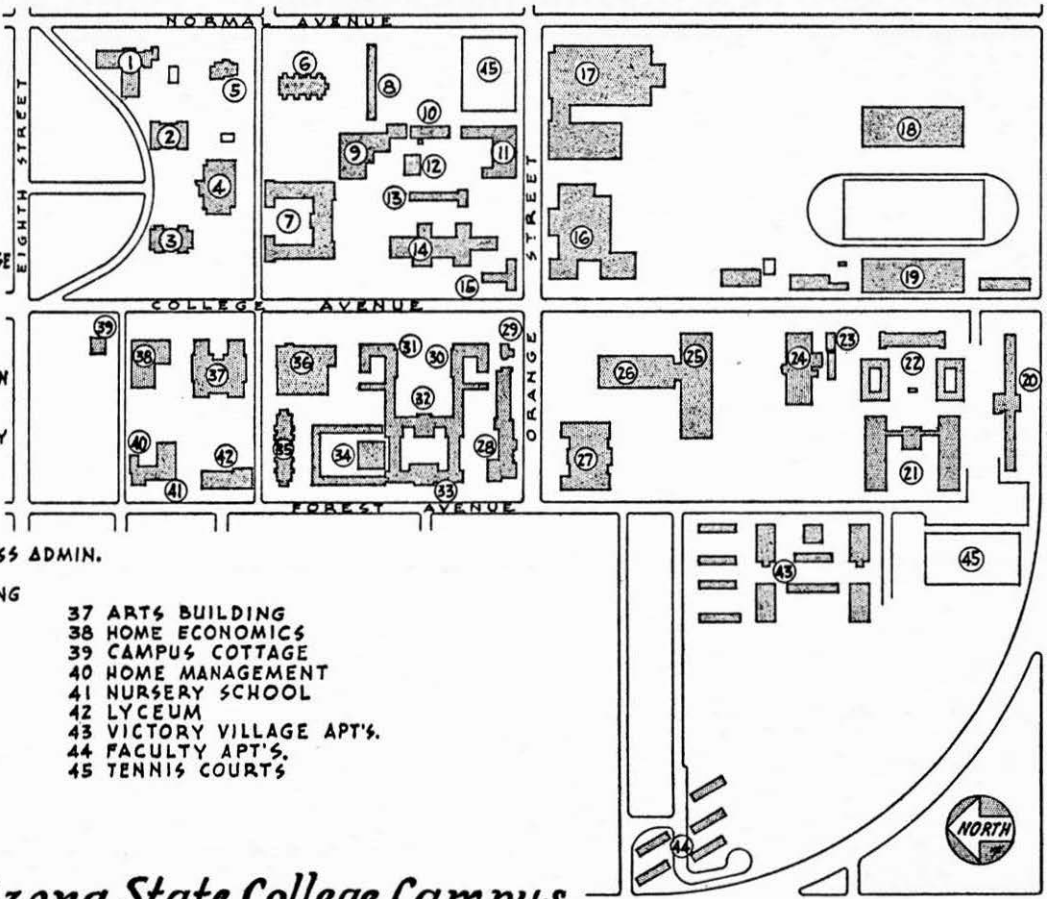
Residence Halls Open to New Students.....	Jan. 27, F., Noon	Jan. 25, F., Noon
New Freshmen and Transfer Students get Registration Materials, take Aptitude and Physical Examinations....	Jan. 27, 28, F., Sa.	Jan. 25, 26, F., Sa.
Registration Days .....	Jan. 31, Feb. 1, Tu., W.	Jan. 29, 30, Tu., W.
(All Students will complete registra- tion and pay fees.)		
Instruction Begins Second Semester.....	Feb. 2, Th.	Jan. 31, Th.
Last Day of Registration for Credit.....	Feb. 15, W.	Feb. 13, W.
Washington's Birthday, No Classes.....	Feb. 22, W.	Feb. 22, F.
Deficient Scholarship Reports Due.....	Mar. 23, F., 4:00 p.m.	Mar. 22, F., 4:00 p.m.
Easter Vacation .....	Mar. 29, Th. 10:00 p.m. to Apr. 9, M., 8:00 a.m.	Apr. 18, Th., 10:00 p.m. to April 29, M., 8:00 a.m.
Scholarship Reports Due for all Stu- dents Completing Requirements for Degrees .....	May 21, M. Noon	May 20, M., Noon
Commencement Rehearsal .....	May 25, F., 8:00 a.m.	May 24, F., 8.00 a.m.
(Goodwin Stadium)		
Honors Assembly .....	May 25, F., 10:30 a.m.	May 24, F., 10:30 a.m.
R.O.T.C. Honors Ceremony and Parade....	May 25, F., 8:00 p.m.	May 24, F., 8:00 p.m.
Baccalaureate Service .....	May 27, Su., 8:00 p.m.	May 26, Su., 8:00 p.m.
Commencement Exercises .....	May 29, Tu., 8:00 p.m.	May 28, Tu., 8:00 p.m.
Final Examinations .....	May 28, 29, 30, 31, June 1, M., Tu., W., Th., F.	May 27, 28, 29, 30, 31, M., Tu., W., Th., F.
Residence Halls Closed .....	June 2, Sa., 12:00 Noon	June 1, Sa., 12:00 Noon
Second Semester Grade Reports Due.....	June 4, M., Noon	June 3, M., Noon

## Summer Session

First Summer Session Begins, Registration .....	June 11, M.,	June 10, M.
First Summer Session Ends.....	July 14, Sa.	July 13, Sa.
Second Summer Session Begins, Registration .....	July 16, M.	July 15, M.
Post Session Registration.....	July 21, Sa.	July 20, Sa.
Second Summer Session Ends.....	Aug. 18, Sa.	Aug. 17, Sa.

- 1 STUDENT HEALTH CENTER
- 2 ENGLISH BUILDING
- 3 AUDITORIUM
- 4 OLD MAIN
- 5 PRESIDENTS HOME
- 6 ALPHA HALL
- 7 TRAINING SCHOOL
- 8 TRAINING SCHOOL SHOP
- 9 CAFETERIA
- 10 BAND BUILDING
- 11 MAINTENANCE & WAREHOUSE
- 12 HEATING PLANT
- 13 MAINTENANCE OFFICE
- 14 EAST HALL
- 15 DEVILS DEN
- 16 MEMORIAL UNION
- 17 MENS PHYSICAL EDUCATION
- 18 EAST STADIUM & DORM.
- 19 WEST STADIUM AND TECHNOLOGY & INDUSTRY
- 20 HAYDEN HALL
- 21 NEW MENS DORMITORY
- 22 IRISH QUADRANGLE
- 23 SCIENCE ANNEX
- 24 SCIENCE BUILDING
- 25 AGRICULTURE & BUSINESS ADMIN.
- 26 ADMINISTRATION
- 27 MOEUR ACTIVITY BUILDING
- 28 NEW WOMENS HALL
- 29 CHAPEL
- 30 SOUTH HALL
- 31 NORTH HALL
- 32 WEST HALL
- 33 GAMMAGE HALL
- 34 GAMMAGE ANNEX
- 35 MATTHEWS HALL
- 36 MATTHEWS LIBRARY

- 37 ARTS BUILDING
- 38 HOME ECONOMICS
- 39 CAMPUS COTTAGE
- 40 HOME MANAGEMENT
- 41 NURSERY SCHOOL
- 42 LYCEUM
- 43 VICTORY VILLAGE APT'S.
- 44 FACULTY APT'S.
- 45 TENNIS COURTS



*Arizona State College Campus*  
 TEMPE, ARIZONA

Board of Regents  
of  
The University and State Colleges  
of Arizona

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Ex-Officio

ERNEST W. MCFARLAND, B.A., M.A., J.D., LL.D.....Governor of Arizona  
CLIFTON L. HARKINS, A.B. in Ed., M.A. in Ed.....State Superintendent of  
Public Instruction

Appointed

	TERM EXPIRES
JOHN G. BABBITT, B.S.....	January, 1957
MICHAEL B. HODGES, President.....	January, 1957
JOHN M. JACOBS, Secretary.....	January, 1959
EVELYN J. KIRMSE, A.M.....	January, 1959
ALEX G. JACOME, B.S., Treasurer.....	January, 1961
WILLIAM R. MATHEWS, A.B., Assistant Secretary.....	January, 1961
LYNN M. LANEY, B.S., J.D., Assistant Treasurer.....	January, 1963
SAM H. MORRIS, A.B., J.D., LL.D.....	January, 1963

---

ALFRED ATKINSON, D.Sc.....Executive Adviser to the Board  
MYRON R. HOLBERT, A.B., M.A.....Budget Officer for Board

# The College Staff

## Administration

- GRADY GAMMAGE (1933)\***.....President of the College  
B.A., M.A., LL.D., University of Arizona; Ed.D., New York University;  
Litt.D., Southwest Christian Seminary
- HAROLD D. RICHARDSON (1940)**.....Academic Vice President;  
Professor of Education  
Ph.B., Ph.M., University of Wisconsin; Ph.D., Northwestern University
- IRVING W. STOUT (1953)**.....Director of Graduate Study;  
Professor of Education  
B.Ed., Platteville State Teachers College;  
M.A., Ed.D., Northwestern University
- ARNOLD TILDEN (1937)**.....Dean, College of Liberal Arts;  
Professor of History  
B.A., M.A., DePauw University; Ph. D., University of Southern  
California
- G. D. McGRATH (1950)**.....Dean, College of Education;  
Professor of Education  
A.B., Findlay College; M.A., University of Michigan;  
Ph.D., University of Colorado
- E. J. HILKERT (1933)**.....Dean, College of Business Administration;  
Professor of Accounting  
B.S. in Bus. Ad., M.A., University of Southern California; L.L.B.,  
University of Notre Dame; C.P.A., Arizona and California.
- LEE P. THOMPSON (1955)**.....Dean, College of Applied Arts and Sciences,  
Head, Div. of Technology and Industry;  
Professor of Technology and Industry  
B.A., Indiana University; M.S., Ph.D., Agricultural and Mechanical  
College of Texas; Registered Engineer in Texas
- ROY C. RICE (1946)**.....Director of Summer Session, Extension and  
Correspondence; Professor of Education  
B.S., New Mexico University; M.S., Massachusetts State College;  
Ph.D., University of Texas
- GILBERT L. CADY (1934)**.....Comptroller;  
Chairman, Division of Business Management  
B.A. in Ed., Arizona State College at Tempe
- W. P. SHOFSTALL (1950)**.....Dean of Students;  
Chairman, Division of Student Affairs  
B.S. in Ed., Northeast Missouri State Teachers College;  
M.A., Ph.D., University of Missouri
- CATHERINE G. NICHOLS (1952)**.....Associate Dean of Students;  
Dean of Women  
A.B., M.A., University of Kentucky; Ed.D., Teachers College,  
Columbia University
- JOSEPH E. SPRING (1954)**.....Director of Special Services  
A.B., Illinois Wesleyan University; M.A., Ph.D., University of Denver
- HAROLD W. BATCHELOR (1943)**.....Head Librarian;  
Associate Professor of Library Science;  
Head, Department of Library Science  
B.A., University of Oregon; B.S., M.S. in L.S., University of Illinois
- ALFRED THOMAS, JR. (1939)**.....Registrar and Director of Admissions  
B.A. in Ed., M.A. in Ed., Arizona State College at Tempe
- ROBERT F. MENKE (1947)**.....Director of Placement;  
Professor of Education  
B.S., Oshkosh State College; M.A., Ph.D., Northwestern University
- JAMES W. CREASMAN (1947)**.....Alumni Secretary  
A.B. in Ed., Arizona State College at Tempe
- CLYDE B. SMITH (1952)**.....Director of Athletics and Physical Education;  
Associate Professor of Physical Education  
A.B., Geneva College; M.S. in Educ., Indiana University.

\* Year of first appointment to the faculty.



## Instruction

- GAMMAGE, GRADY (1933)** - - - - - President of the College  
B.A., M.A., LL.D., University of Arizona; Ed.D., New York University;  
Litt.D., Southwest Christian Seminary
- ABRAHAM, WILLARD (1953)** - - - - - Professor of Education  
B.S., Illinois Institute of Technology (Lewis Institute); M.Ed., Chicago  
Teachers College; Ph.D., Northwestern University
- ANDERSON, MARGERY M. (1949)** - - Assistant Professor of Education  
B.A., Yankton College; M.A., University of Chicago
- AUSTIN, GLENN (1950)** - - - Associate Professor of Education  
B.A., M.A., University of Kansas; Ph.D., Ohio State University
- AUTENRIETH, BERTHA H. (1946)** - - Assistant Professor of Music  
B.M., New England Conservatory; M.M., University of Michigan
- BALL, RACHEL STUTSMAN (1947)** - Associate Professor of Psychology  
A.B., Cornell University; Ph.D. University of Chicago
- \*\*BARGER, JAMES D. (1951)** - Special Lecturer in Medical Technology;  
Pathologist — Good Samaritan Hospital  
A.B., B.S., University of North Dakota; M.D., University of  
Pennsylvania; M.S. (Pathology), University of Minnesota
- BARKLEY, BESS (1933)** - - - - - Associate Professor of Music  
B.A., University of Arizona
- BARRETT, THOMAS W. (1950)** - - Associate Professor of Agronomy  
B.S., Brigham Young University; M.S., Ph.D., Cornell University
- BATCHELOR, H. W. (1943)** - Associate Professor of Library Science;  
Head, Department of Library Science  
Head Librarian  
B.A., University of Oregon; B.S., M.S. in L.S., University of Illinois
- BATEMAN, GEORGE M. (1927)** - - - - - Professor of Chemistry;  
Head, Department of Physical Sciences  
B.S., Utah State Agricultural College; M.S., Ph.D., Cornell University
- BEALS, ARTHUR R. (1951)** - - - Assistant Professor of Accounting  
B.A. in Ed., M.A. in Ed., Arizona State College at Tempe;  
C.P.A., Arizona
- BELL, RICHARD H. (1952)** - - - Assistant Professor of Education  
B.A., Miami University; M.A., Teachers College, Columbia University
- BENDER, GORDON L. (1953)** - - - - - Associate Professor of  
Zoology  
B.S., Iowa State College; M.S., University of Wisconsin;  
Ph.D., University of Illinois
- BENEDICT, JOEL A. (1946)** - - - Associate Professor of Education;  
Director, Bureau of Audio-Visual Aids  
B.A. in Ed., M.A. in Ed., Arizona State College at Tempe
- BERGERON, THEODORE S., M/SGT. (1952)** - - - Instructor in Military  
Science and Tactics
- BJELLAND, ELMER L. 1ST. LT. (1954)** - - - - Assistant Professor  
of Air Science  
B.S., University of Oregon
- BOWERS, CHARLES O. (1948)** - - - Assistant Professor of Music;  
Director of Orchestra  
M.S., Southeast Missouri State College; M.M., Eastman School of Music
- BRATCHER, AUSTIN S. (1946)** - - - - - Professor of Marketing  
B.A., Trinity University; M.A., M.B.A., (Statistics), University of  
Texas; M.B.A., (Marketing), University of Chicago
- BRIDENSTINE, DON C. (1953)** - Instructor in Business Administration  
B.S., University of Oregon; A.M., University of Southern California
- BROWN, DUANE (1951)** - - - - - Associate Professor of Chemistry  
B.S., Brigham Young University; Ph.D., Cornell University

\*\* Part Time

- BRYANT, FRED O. (1950) - Assistant Professor of Physical Education  
B.S., Springfield College; M.S., University of Illinois
- BULLOCK, ARNOLD (1938) - - - - - Professor of Music  
B.M., Yale School of Music; M.A. in Ed., Arizona State College at Tempe
- BURGESS, GWEN (1950) - - - - - Assistant Professor of Art  
B.S., James Millikin University; M.A., Columbia University
- BURGOYNE, EDWARD E. (1951) - - Assistant Professor of Chemistry  
B.S., Utah State Agricultural College; M.S., Ph.D., University of Wisconsin
- BURK, KARL W. (1949) - - - Assistant Professor of Technology  
and Industry  
B.A. in Ed., M.A. in Ed., Arizona State College at Tempe; Ed.D., Bradley University
- BURKHARD, SAMUEL (1921) - - - - - Professor Emeritus  
B.A., Goshen College; M.A., Columbia University;  
Ph.D., New York University
- BURTON, A. R. (1941) - - - - - Professor of Accounting  
B.S., M.S., Kansas State Teachers College; Ph.D., University of Nebraska; C.P.A., Arizona
- BYERS, FRANK R. (1947) - - - - - Professor of English;  
Director, Drama Workshop  
B.A., M.A., University of Cincinnati
- BYERS, NELL B. (1934) - - - - - Associate Professor of Education  
B.A., University of Cincinnati; M.A., Ohio State University
- CAREY, ROBERT W. (1955) - - - Teaching Assistant in Physical  
Education; Assistant Football Coach  
B.S., Michigan State College
- CASTILLO, SENON A. (1948) - - Instructor in Physical Education;  
Track Coach  
B.A. in Ed., Arizona State College at Tempe
- CAVALLIERE, WILLIAM A. (1945) - - - - - Assistant Professor of  
Technology and Industry  
B.A. in Ed., M.A. in Ed., Arizona State College at Tempe
- CONLIN, DAVID A. (1948) - - - - - Associate Professor of English  
A.B., Syracuse University; Ph.D., Yale University
- \*\*CRANCE, T. T. (1954) - - - Assistant Professor of Accounting  
B.A. in Ed., M.A. in Ed., Arizona State College at Tempe;  
C.P.A., Arizona
- CRAWFORD, FRED (1948) - - - Professor of Educational Psychology  
A.B., Santa Barbara State College; M.S. in Ed., Ed.D., University of Southern California
- DAVIS, SANDFORD S. (1953) - - - Assistant Professor of Education  
B.A., B.S., Central Missouri State College; M.A., University of Missouri;  
Ed.D., University of Colorado
- DEVINE, DANIEL J. (1955) - - - Assistant Professor of Physical  
Education; Head Football Coach  
B.S., University of Minnesota; M.A., Michigan State College
- DICKINSON, ARTHUR L. (1952) - Instructor in Physical Education;  
Trainer, Intercollegiate Athletics  
B.A., Iowa State Teachers College; M.S., Indiana University
- DOLPHIN, VERNON M. (1954) - - - - - Instructor in Psychology  
B.A., M.A., University of Minnesota
- DORAN, RONALD J., CAPTAIN (1954) - - - - Assistant Professor  
of Air Science  
B.S., University of Illinois
- DOUTHIT, J. C. (1950) - - - - Assistant Professor of Technology  
and Industry  
B.E.E., University of Arkansas; M.A. in Ed., Arizona State College at Tempe; Registered Electrical Engineer in Arizona
- DRESSKELL, MILES A. (1945) - - - - - Professor of Music  
A.B., San Jose State College; B.M., Northwestern University;  
M.A., Teachers College, Columbia University

\*\* Part Time

- DRESSKELL, NADINE (1945) - - - - Assistant Professor of Music  
B.S., Bowling Green State College; M.A., Teachers College, Columbia University
- ELLSWORTH, LOLA (1938) - Associate Professor of Home Economics  
B.S., Brigham Young University; M.A., Teachers College, Columbia University
- ELMORE, JAMES W. (1949) - - Assistant Professor of Architecture  
A.B., University of Nebraska; M.S. in Architecture, Columbia University; Registered Architect in Arizona
- ENSIGN, MEL C. (1948) - - - Assistant Professor of Architecture  
B.Arch., University of Southern California; M.Arch., Harvard University; Registered Architect in Arizona.
- ESCUDEO, MARY JULIETTE (1948) - - - - Associate Professor of  
Foreign Languages  
Diplome, University of Paris-Institut de Phonétique; A.B., San Diego State College; M.A., Claremont Graduate School; Ph.D., Cornell University
- ESSIG, MARY (1947) - - Assistant Professor of Home Economics;  
Hostess at the Home Management House  
B.S. in Ed., University of Missouri; M.E., Colorado State College of Agriculture and Mechanic Arts
- EVERETT, AARON B. (1954) - - - Instructor in Foreign Languages  
B.A., University of Idaho; M.A., University of Oregon.
- FETTER, EUGENE FRANK (1953) - Instructor in Physical Education;  
Assistant Football Coach  
B.S. in Ed., Ohio Northern University; M.S. in P.E., Indiana University
- FINLEY, LUTHER (1950) - - - Assistant Professor of Technology  
and Industry  
B.S., M.A. in Ed., Arizona State College at Tempe; Ed.D., Bradley University; Licensed Land Surveyor in Arizona
- FLETCHER, THOMAS H. (1954) - - Teaching Assistant in Physical  
Education; Assistant Football Coach  
B.S., Arizona State College at Tempe
- FRENCH, HELEN AIKEN (1949) - - Assistant Professor of Education  
B.S. in Ed., Geneva College; M.A., University of Pittsburgh
- FUCHS, JACOB (1952) - - - - Assistant Professor of Chemistry  
B.A., New York University; M.S., Ph.D., University of Illinois
- GILLANDEES, DOROTHY F. (1937) - - - - Associate Professor of  
Physical Education  
B.S., Oregon State College; M.A., Teachers College, Columbia University; Registered Physical Therapist, Walter Reed Hospital
- GISOLO, MARGARET (1954) - - - - Assistant Professor of  
Health and Physical Education  
B.S., Indiana State Teachers College; M.A., New York University
- GOODWIN, JOHN B. (1948) - - Assistant Professor of Technology  
and Industry  
B.A. in Ed., Arizona State College at Tempe; M.S., Oregon State College
- GRIMES, JOHN O. (1928) - - - - - Professor Emeritus  
B.S. in Ed., Ohio University; M.A., Ph.D., University of Michigan
- GURNEE, HERBERT (1943) - - - - - Professor of Psychology  
B.A., M.A., Wesleyan University; Ph.D., Harvard University
- GUTENBERG, ARTHUR W. (1951) - Assistant Professor of Economics;  
Director, Bureau of Business Services  
B.A.S., B.S., M.B.A., University of California
- HANSON, HUGH (1948) - - - - - Assistant Professor of Zoology  
B.S. in Ed., Kansas State Teachers College; M.S., Ph.D., University of Illinois
- HARELSON, HARRY B. (1935) - - - - - Professor of Music;  
B. Pub. Sch. Mus., M.M., Columbia School of Music
- HARTER, TOM J. (1937) - - - - - Professor of Art  
B.A. in Ed., Arizona State College at Tempe; M.F.A., University of Oregon
- HEADINGTON, ROBERT C. (1953) - - Associate Professor of Economics  
A.B., Kenyon College; M.S., Ph.D., Ohio State University

- HEIMANN, ROBERT A. (1952) - - Assistant Professor of Education;  
Counselor Trainer  
B.S., Wisconsin State College; M.S., Ph.D., University of Wisconsin
- HENSHAW, MARJORIE B. (1953) - - - - Instructor in English  
B.A. in Ed., M.A. in Ed., Arizona State College at Tempe
- HERRICK, THOMAS R. (1954) - - - - Instructor in Social Studies  
B.A., University of Chicago
- HILKERT, E. J. (1933) - - - - Professor of Accounting;  
Dean, College of Business Administration  
B.S. in Bus. Ad., M.A., University of Southern California; LL.B.,  
University of Notre Dame; C.P.A., Arizona and California
- HINES, HAROLD C. (1952) - - - - Associate Professor of Music;  
Director of Band  
B.S. in Mus. Ed., M.S. in Mus. Ed., University of Illinois
- HITCHCOCK, JAMES M., CAPTAIN (1953) - - Assistant Professor of  
Military Science and Tactics  
B.S., University of Washington
- \*\*HODGE, ALBERT L. (1952) - - - Associate Professor of Music  
Mus. Doc., University of Melbourne
- HOPKINS, ERNEST J. (1949) - - - - Professor of Journalism  
B.A., University of Southern California
- †HUBBARD, PAUL G. (1950) - - - - Assistant Professor of History  
B.A., Wabash College; M.A., Ph.D., University of Illinois
- HUBER, PAUL (1954) - - - - Instructor in Speech  
B.A., Muskingum College; B.D., Emory University; A.M., University  
of Michigan
- HUMPHRY, BETTY JEANNE (1954) - - - - Instructor in Psychology  
B.A., Iowa State Teachers College; M.A., Ph.D. State University of  
Iowa
- JELINEK, JAMES J. (1953), Associate Professor of Secondary Education  
B.S. in Ed., University of Illinois; M.A. in Ed., Northwestern  
University; Ed.D., Indiana University
- JONES, JAMES J. (1952) - - - - Assistant Professor of Education  
B.S. in Ed., M.Ed., University of Georgia; Ed.D., Indiana University
- JONES, ROBERT C. (1951) - - - - Instructor in Library Science;  
Assistant Librarian  
B.A., M.A., University of Denver
- JUDD, B. IRA (1937) - - - - Professor of Agronomy  
B.S., M.S., Utah State Agricultural College; Ph.D., University of  
Nebraska
- KAGY, VIRGINIA L. (1947) - Associate Professor of Home Economics  
B.A., Drake University; M.S., Iowa State College; Ph.D., Johns Hopkins  
University
- KAJIKAWA, WILLIAM (1937) - - - Assistant Professor of Physical  
Education; Basketball Coach  
B.A. in Ed., M.A. in Ed., Arizona State College at Tempe
- KARP, MARVIN, Captain (1955) - - - - Assistant Professor of  
Air Science  
B.S., University of Alabama
- KAUFMAN, LUCILLE B. (1950) - Assistant Professor of Technology  
and Industry  
B.S.(M.E.), M.S., University of Colorado  
Registered Mechanical Engineer in Arizona and Illinois
- KEATING, PATRICIA B. (1948) - - - Assistant Professor of Music  
B.M., University of Illinois; M.M., Northwestern University
- KEENAN, RUTH. H. (1953) - - - - Instructor in English  
B.A., M.A., University of Montana
- KEITH, MARLOW (1946) - - - Assistant Professor of Technology  
and Industry  
B.A. in Ed., M.A. in Ed., Arizona State College at Tempe

†On Leave—1954-55

\*\* Part Time

- KLANN, MARGARET L. (1945)** - - - - - Associate Professor of  
Physical Education  
B.S. in Ed., University of Illinois; M.A., Colorado State College of  
Education
- KLARE, NORMAND E., CAPTAIN (1954)** - - - Assistant Professor  
of Air Science
- KLOPPMANN, ALFRED E., M/SGT. (1952)** - - - - - Instructor in  
Military Science and Tactics
- KLOSTER, PAULA R. (1927)** - - - - - Professor of Art;  
Curator, Collection of American Art  
B.S., University of North Dakota; M.A., Stanford University
- KRENKEL, JOHN H. (1947)** - - - - - Professor of History  
B.S. in Ed., University of Illinois; M.A., Claremont Graduate School;  
Ph.D., University of Illinois
- KUSH, FRANK (1955)** - Teaching Assistant in Physical Education;  
Assistant Football Coach  
B.S., Michigan State College
- LANGHAM, DWIGHT W., LT. COLONEL (1954)** - Professor of Military  
Science and Tactics; Head, Department of  
Military Science and Tactics  
B.S. in Ed., University of Illinois; LL.B. Georgetown University;  
LL.M., George Washington University
- LAVIK, RUDOLF H. (1933)** - - - Professor of Physical Education;  
Head of Men  
B.A., Concordia College; B.P.E., Springfield College; M.A., University  
of Southern California
- †LAVIN, MARY VIRGINIA (1948)** - - - Assistant Professor of Speech  
B.A., University of Oregon; M.A., University of Washington
- LEWIS, MAURICE S. (1954)** - - - - - Professor of Education;  
Principal, I. D. Payne Training School  
B.S. in Ed., M.S. in Ed., Drake University; Ed.D., Colorado State  
College of Education
- LINDSTROM, FREDERICK B. (1953)** - Assistant Professor of Sociology  
A.B., A.M., Ph.D., University of Chicago
- LYON, ROBERT B. (1938)** - - - Associate Professor of Mathematics  
B.S., B.M., University of Illinois; M.S., University of Idaho
- MANNING, DUANE (1951)** - - - - - Professor of Education  
B.S., M.A., Ball State Teachers College; Ed.D., Indiana University
- MCCLEARY, JAMES A. (1947)** - - - Associate Professor of Botany  
B.A., Asbury College; M.S., Ohio University; Ph.D., University of  
Michigan
- MCGRATH, G. D. (1950)** - - - - - Professor of Education;  
Dean, College of Education  
A.B., Findlay College; M.A., University of Michigan; Ph.D., University  
of Colorado
- MCKINNON, ANNA MARY (1946)** - Associate Professor of Accounting  
B.S., University of Illinois; M.B.A., Northwestern University
- MENKE, ROBERT F. (1947)** - - - - - Professor of Education;  
Director of Placement  
B.S., Oshkosh State College; M.A., Ph.D., Northwestern University
- MERRITT, CHARLES (1946)** - - - Associate Professor of Technology  
and Industry  
B.A. in Ed., M.A. in Ed., Arizona State College at Tempe
- MILLER, PAUL THEODORE (1947)** - Professor of Geography and Geology  
A.B., Simpson College; M.S., Ph.D., University of Iowa
- MOFFIT, INEZ W. (1953)** - Assistant Professor of Library Science;  
Reference Librarian  
B.A., Iowa State Teachers College; B.S. in L.S., University of  
Minnesota; M.A., University of Denver
- MOODY, E. GRANT (1951)** - Assistant Professor of Dairy Husbandry  
B.S., University of Arizona; M.S., Kansas State College;  
Ph.D., Purdue University

- MOORE, MARION L. (1952) - - - - - Instructor in Sociology  
B.A., University of Arizona; M.A., University of Chicago
- MORTENSEN, MARTIN (1932) - Associate Professor of General Science  
B.A., Brigham Young University; M.A., University of Arizona
- MOUNT, DICK (1948) - - Associate Professor of Business Education  
B.A., Simpson College; M.S., Drake University
- MULLIGAN, WILLIAM T., COLONEL (1952) - Professor of Air Science;  
Head, Department of Air Science  
B.A., University of California at Los Angeles
- MURPHY, NINA L. (1924) - - - Professor of Physical Education;  
Director of Women  
B.S. in Ed., University of Arizona; M.A., University of Southern  
California
- MYERS, LOUIS M. (1937) - - - - - Professor of English;  
Head, Department of English  
B.A., St. Stephens College; M.A., Columbia University; Ph.D.,  
University of California
- NEEB, LEWIS S. (1931) - - - Professor of Technology and Industry  
B.A. in Ed., M.A., University of Arizona  
Registered Mechanical Engineer in Arizona
- NELSON, DAVID V. (1951) - - - - - Assistant Professor of  
Office Training and Management  
B.A. in Ed., M.A. in Ed., Arizona State College at Tempe
- †NORTON, NAOMA (1948) - -Assistant Professor of Home Economics  
B.A., Highlands University; M.A., Colorado State College of  
Agriculture and Mechanic Arts
- ONOFRIO, ALBERT J. (1947) - - - - - Assistant Professor of  
Physical Education  
B.A. in Ed., M.A. in Ed., Arizona State College at Tempe
- OSENBERG, FREDERIC C. (1946)- - - Associate Professor of English  
B.A., M.A., University of Michigan; Ph.D., University of Illinois
- PARKER, ERNEST L. (1950)- Associate Professor of Animal Husbandry  
Ph.D., University of Leipzig, Germany
- PAYNE, IRA DAWSON (1911) - - - - - Professor Emeritus  
B.A., M.A., Stanford University; LL.D., Arizona State College at Tempe
- PEABODY, STANLEY (1952) - Instructor in Technology and Industry  
B.S., M.A. in Ed., Arizona State College at Tempe
- PITTMAN, ANNE M. (1952) - - - - - Assistant Professor of  
Physical Education  
B.S. in P.E., University of Texas; M.A. in Ed. Admin., New York  
University
- \*\*PLUMMER, ROBERT N. (1940) - - - - - Professor of Speech  
B.S., Oklahoma Agricultural and Mechanical College; M.A., George  
Peabody College; Ph.D., Louisiana State University
- PODLICH, WILLIAM F., JR. (1949) - - - Professor of Education;  
Director of Teacher Education  
B.S., Maryland State Teachers College; M.A., Teachers College,  
Columbia University; Ph.D., State University of Iowa
- POOLE, EDGAR T., JR., LT. COL. (1954) - - - Assistant Professor of  
Air Science  
B.S., U. S. Military Academy, West Point
- †PORTNOFF, COLLICE H. (1945) - - - - - Professor of English  
B.A., M.A., University of California; Ph.D., Stanford University;  
F.A.A.R., M.A., American Academy in Rome
- QUAID, HAZEL HARVEY (1931) - - - Associate Professor of Music  
B.A. in Ed., Arizona State College at Tempe; M.A., Northwestern  
University
- †RANNELS, JESSIE M. (1939) - - - Professor of Home Economics;  
Head, Department of Home Economics  
B.S., Iowa State College; M.S., Cornell University; Ph.D., University of  
Wisconsin

†On Leave—1954-55

\*\* Part Time

- RASMUSSEN, ROBERT D. (1949)** - - - - - Assistant Professor of  
Animal Husbandry  
B.S., Iowa State College; M.S., Washington State College
- RATLIFF, JOHN D. (1954)** - - - - - Assistant Professor of English  
B.A. in Ed., Arizona State College at Tempe; M.A., Claremont  
Graduate School; Ph.D., Stanford University
- RAWLS, WILLIAM S. (1949)** - - - - - Assistant Professor of Physics  
B.S., Murray State College; M.S., Tulane University
- RENNER, GEORGE T., III (1951)** - Assistant Professor of Geography  
B.A., Stanford University; M.A., Ed.D. (Geography), Columbia  
University
- RICE, ROSS R. (1950)** - - - - - Assistant Professor of Political Science  
M.A., University of Chicago
- RICE, ROY C. (1946)** - - - - - Professor of Education;  
Director of Summer Session, Extension and Correspondence  
B.S., New Mexico University; M.S., Massachusetts State College;  
Ph.D., University of Texas
- RICHARDSON, GRANT L. (1953)** - - Associate Professor of Agronomy  
B.S. in Agric., M.S., University of Arizona; Ph.D., Oregon State College
- RICHARDSON, HAROLD D. (1940)** - - - - - Professor of Education;  
Academic Vice President  
Ph.B., Ph.M., University of Wisconsin; Ph.D., Northwestern University
- RICKEL, HARRY (1948)** - - - - - Associate Professor of Music  
B.M., M.M., University of Arizona
- RIDER, WENDELL J. (1953)** - - - Associate Professor of Music  
B.S., Iowa State Teachers College; M.M., Eastman School of Music;  
Ph.D., University of Iowa
- RIGGINS, L. F. (1946)** - - - Instructor in Agricultural Mechanics  
B.S. in Ed., Arizona State College at Flagstaff
- ROBINSON, DANIEL O. (1948)** - - - - - Professor of Agronomy;  
Head, Division of Agriculture  
A.B., Brigham Young University; M.A., University of Arizona;  
Ph.D., Ohio State University
- \*\*ROSENTHAL, MAURICE (1951)** - - - - - Special Lecturer in Medical  
Technology; Pathologist—Memorial Hospital  
M.D., Medical College of Virginia
- ROVER, R. CRAIG (1952)** - - - - - Assistant Professor of Education  
B.A., Upsala College; M.A., St. Lawrence University;  
Ph.D., Cornell University
- SCHAUMBURG, DONALD R. (1953)** - - Assistant Professor of Art  
B.A. Ed., California College of Arts and Crafts; M.F.A., Claremont  
Graduate School
- †SCHILLING, DOROTHY C. (1932)** - - - - - Professor of English  
B.A., M.A., Ph.D., Stanford University
- SCOUAR, DAVID B. (1952)** - - - - - Associate Professor of Music  
B.M., Lawrence College; A.B., Texas Christian University;  
M.A., Columbia University
- SIMMONS, JAMES A. (1953)** - - - - - Instructor in Music  
B.A. in Ed., M.A. in Ed., Arizona State College at Tempe
- SKINNER, H. CLAY (1938)** - - - - - Professor of Psychology;  
Head, Department of Psychology  
B.S. in Ed., Ohio University; M.A., Ohio State University;  
Ph.D., New York University
- SMITH, CLYDE B. (1952)** - Associate Professor of Physical Education;  
Director of Athletics and Physical Education  
A.B., Geneva College; M.S. in Ed., Indiana University
- SMITH, MARION W. (1952)** - - - Assistant Professor of Voice  
B.S. Mus. Ed., Capital University; M.M., American Conservatory of  
Music
- SMITH, SYDNEY RUSSELL (1947)** - Associate Professor of Psychology  
B.A., M.A., Ph.D., University of California
- SOUTHERN, CLARENCE EDWARD (1936)** - Associate Professor of English  
B.A., Evansville College; M.A., Stanford University

†On Leave 2nd Semester 1954-55

\*\*Part Time



- STAHNKE, HERBERT L. (1941)** - - - - - Professor of Zoology;  
Director, Poisonous Animals Research Laboratory;  
Head, Department of Biological Sciences  
S.B., University of Chicago; M.A., University of Arizona; Ph.D., Iowa  
State College
- \*\*STAPLEY, LOREL AARON (1951)** - - - Special Lecturer in Medical  
Technology; Assistant Pathologist—St. Joseph's Hospital  
B.S., B.M., M.D., Northwestern University
- STEPHENS, ALAN A. (1954)** - - - - - Instructor in English  
A.B., M.A., University of Denver; Ph.D. University of Missouri
- STEVerson, NORRIS J. (1932)** - - - - - Associate Professor of  
Physical Education  
B.A. in Ed., Arizona State College at Tempe; M.S., University of  
Southern California
- STEWART, KENNETH M. (1947)** - - Associate Professor of Sociology  
A.B., M.A., Ph.D., University of California
- STITES, WILLIAM H. (1954)** - - - Assistant Professor of Speech  
B.A., Louisiana Polytechnic Institute; M.A., Ph.D., University of  
Denver
- STOUT, IRVING W. (1953)** - - - - - Professor of Education;  
Director of Graduate Study  
B.Ed., Platteville State Teachers College; M.A., Ed.D., Northwestern  
University
- TAYLOR, LOUIS (1949)** - - - - - Assistant Professor of English  
B.S. in Ed., M.A., Ohio State University
- TAYSOM, ELVIN D. (1953)** - Assistant Professor of Animal Husbandry  
B.S., University of Idaho; M.S., Utah State Agricultural College
- THOMPSON, LEE P. (1955)** - Professor of Technology and Industry;  
Dean, College of Applied Arts and Sciences;  
Head, Division of Technology and Industry  
B.A., Indiana University; M.S., Ph.D., Agricultural and Mechanical  
College of Texas; Registered Engineer in Texas
- THOMSEN, WILLIAM G., MAJOR (1953)** - - Assistant Professor of  
Military Science and Tactics  
A.B., University of California
- THOMSON, RONALD G. (1947)** - - - - - Associate Professor of  
Physical Education  
B.S., Springfield College; M.A. in Ed., Arizona State College at Tempe
- TILDEN, ARNOLD (1937)** - - - - - Professor of History;  
Dean, College of Liberal Arts  
B.A., M.A., DePauw University; Ph.D., University of Southern  
California
- \*\*TURNER, F. BERNADETTE (1946)** - Associate Professor of Sociology  
B.S. in Ed., University of Minnesota; M.A., Northwestern University;  
Ph.D., Washington University
- TURNER, KATHERINE C. (1946)** - - - - - Professor of English  
B.Ed., Illinois State Normal University; M.A., Ph.D., University of  
Michigan
- VAN PETTEN, DONALD R. (1942)** - - Professor of Political Science;  
Acting Head, Department of Social Studies (1954-55)  
Director of Intercollegiate Athletics (1954)  
B.A. in Ed., Arizona State College at Tempe; M.S., University of  
Southern California; Ph.D., Stanford University
- VERGIS, JOHN P. (1954)** - - - Assistant Professor of Education  
B.S., M.A., New York University; Ed.D., University of Southern  
California
- VON DER HEYDT, ALFRED (1950)** - - - - Assistant Professor of  
Foreign Languages  
Diploma, University of Frankfurt-on-the-Main; M.A., Yale University;  
Ph.D., Cornell University
- WAGER, ALAN T. (1949)** - - - - - Professor of Physics  
B.S., Hobart College; M.A., Cornell University; Ph.D., University of  
Chicago

\*\* Part Time

- WELSH, RICHARD K. (1949) - - - Assistant Professor of English  
A.B., DePauw University
- WEXLER, CHARLES (1930) - - - - Professor of Mathematics;  
Head, Department of Mathematics  
B.S., Harvard College, M.S., Ph.D., Harvard University
- \*\*WILLIAMS, O. O. (1939) - Special Lecturer in Medical Technology  
at St. Joseph's Hospital  
B.S., M.D., Vanderbilt University
- WILLSON, LORETTA (1947) - - - - Assistant Professor of Speech  
B.A., University of South Dakota; M.A., Northwestern University
- WILSON, IRMA (1922) - - - - Professor of Foreign Languages;  
Head, Department of Foreign Languages  
B. A., Montana State University; M.A., Teachers College, Columbia  
University; Ph.D., Columbia University
- WOCHNER, RAYMOND E. (1952) - - - - Professor of Education  
B.S., York College; M.S., University of Nebraska; Ph.D., University of  
Wyoming
- WOOD, HARRY (1954) - - - - - - - - Professor of Art  
Head, Department of Art  
B. A., M.A. (Journalism) University of Wisconsin; M.A., Ph.D. (Art)  
Ohio State University
- †WYLLYS, RUFUS KAY (1929) - - - - - Professor of History;  
Head, Department of Social Studies  
B.A., Hillsdale College; M.A., University of Michigan; Ph.D.,  
University of California; Litt.D., Hillsdale College
- YALE, FRANCIS G. (1952) - Assistant Professor of Physical Sciences  
A.B., M.A., Colorado State College of Education; Ed.D., Teachers Col-  
lege, Columbia University.
- YOUNG, GEORGE P. (1947) - - - Associate Professor of Psychology  
B.A., Colorado State College; M.A., University of Colorado;  
Ph.D., Yale University
- ZACHER, ROBERT V. (1946) - - - Associate Professor of Marketing  
B.S., M.S., University of Alabama
- ZIDNAK, PETE (1951) - - - - - Assistant Professor of Economics  
B.S., Loyola University at Los Angeles; M.A., Ph.D. University of  
Southern California.
- ZIMMERMAN, J. E. (1946) - - - - Associate Professor of English  
B.A., M.A., Baylor University

## Training School

- LEWIS, MAURICE S. (1954) - - - - - Principal, I. D. Payne  
Training School; Assistant Professor of Education  
B.S. in Ed., M.S. in Ed., Drake University; Ed.D., Colorado State  
College of Education
- ASHBY, NANCIE I. (1948) - - - - - Lunchroom Supervisor
- COPPINGER, BILLIE A. (1953) - - - - - First Grade  
B.A. in Ed., Arizona State College at Tempe
- CROUCH, BEULAH H. (1953) - - - - - Fourth Grade  
B.A. in Ed., M.A. in Ed., Arizona State College at Tempe
- MILLER, FRANCES PAULINE (1954) - - - - - First Grade Teacher  
B.S., M.Ed., University of Nebraska
- MORRIS, MARY SCOTT (1947) - - - - - Art  
A.B., Western Kentucky State College; M.A., Northwestern University
- NYE, IRENE (1949) - - - - - Fifth Grade  
B.A. in Ed., M.A. in Ed., Arizona State College at Tempe
- PEJSA, ROBERT R. (1954) - - - - - Eighth Grade Teacher  
B.A. in Ed., Arizona State College at Tempe
- ROBINSON, DOROTHY F. (1927) - - - - - Librarian  
B.A., M.A., University of Southern California

†On Leave—1954-55

\*\* Part Time

- SEARIGHT, ROLAND (1954) - - - - - Music Teacher  
A.B., Grinnell College; M.A., The Eastman School of Music of the  
University of Rochester
- SMITH, GLADYS (1954) - - - - - Fourth Grade Teacher  
B.S. in Ed., Fort Hayes Kansas State College; M.S. in Ed., University  
of Kansas
- SMITH, WALTER H. (1954) - - - - - Seventh Grade Teacher  
B.A. in Ed., Arizona State College at Tempe
- TAYLOR, PATRICIA L. (1954) - - - - - Kindergarten Teacher  
B.E., M.E., National College of Education
- WEAR, GEORGE R. (1954) - - - - - Shop Teacher  
B.A. in Ed., Arizona State College at Tempe
- WHITECRAFT, MARY JO (1954) - - - - - Third Grade Teacher  
B.A. in Ed., Arizona State College at Tempe

## Matthews Library

- BATCHELOR, HAROLD W. (1943) - - - - - Head Librarian;  
Associate Professor of Library Science;  
Head, Department of Library Science  
B.A., University of Oregon; B.S., M.S. in L.S., University of Illinois
- ARNHOLD, KATHRYN (1947) - - - - - Loan Service Manager  
B.A. in Ed., Arizona State College at Tempe
- BLAYLOCK, EDNA THOMAS (1950) - - - - - Library Clerk
- CORY, LUELLA (1948) - - - - - Catalog and Reference Librarian  
A.B., University of Kansas; B.L.S., University of Illinois Library School
- FANNING, WYNEMA (1952) - - - - - Library Clerk
- HATTON, SNOWDYE R. 1954 - - - - - Library Clerk
- HOOVER, GRACE V. (1951) - - - - - Reference Librarian  
A.B., University of Nebraska; B.S. in L.S., University of Denver
- HOWE, CHARLES EDWARD (1951) - - - - - Assistant in Cataloging  
B.D., Bexley Hall, Kenyon College
- \*\*JELINEK, ELIZABETH (1954) - - - - - Library Clerk
- JONES, ROBERT C. (1951) - - - - - Instructor in Library Science;  
Assistant Librarian  
A.B., M.A. in L.S., University of Denver
- LEIGH, OLIVE PATRICIA (1950) - - - - - Library Clerk  
B.A., Colorado College
- MAXWELL, RUTH (1952) - - - - - Assistant in Cataloging  
B.A. in Ed., Arizona State College at Tempe
- MOFFIT, INEZ W. (1953) - - - - - Assistant Professor of Library Science;  
Reference Librarian  
B.A., Iowa State Teachers College; B.S. in L.S., University of  
Minnesota; M.A., University of Denver
- \*\*MOORE, LILLIAN (1954) - - - - - Library Clerk
- MORGAN, FLORENCE B. (1950) - - - - - Catalog Librarian  
B.A., University of Colorado; B.S. in L.S., University of Illinois;  
M.S., Columbia University
- PHILLIPS, RUTH F. (1948) - - - - - Catalog Librarian  
B.S., Cornell College; Library Science Certificate, University of  
Wisconsin
- RUSSELL, ISABEL (1953) - - - - - Library Clerk  
A.B., Butler University
- RUSSELL, JESSIE C. (1954) - - - - - Curriculum Laboratory Manager  
A.B., Butler College; M.S., Butler University
- SIEDENTOPF, MARIE (1953) - - - - - Acquisitions Librarian  
A.B., University of Montana; Library Certificate, Riverside Library  
School.
- \*\*STABLER, ELOISE L. - - - - - Library Clerk
- \*\*SWEENEY, RUTH (1952) - - - - - Library Clerk
- TERRILL, CHARLOTTE P. (1949) - - - - - Library Clerk
- WHETTEN, WILLMIRTH S. (1950) - - - - - Library Clerk

\*\* Part Time





# The College

## Organization

Arizona State College is an integral part of the system of higher education maintained by the State of Arizona. It is governed by a Board of Regents appointed by the Governor of the State and is supported by legislative appropriations.

The College is organized into four colleges and a graduate division, as follows:

1. The College of Liberal Arts, which offers courses in the arts and sciences, leading to the degree of Bachelor of Arts or Bachelor of Science.

2. The College of Education, which offers courses in kindergarten-primary, elementary, secondary, and special education, leading to the degree of Bachelor of Arts in Education, and through the Graduate Division, to the degrees of Master of Arts in Education, Education Specialist, and Doctor of Education.

3. The College of Business Administration, which offers courses in the various fields of business, leading to the degree of Bachelor of Science.

4. The College of Applied Arts and Sciences, which offers courses in agriculture, industrial arts, and technology, leading to the degree of Bachelor of Science.

5. The Graduate Division, which administers a program of work through the four colleges, leading presently to the degree of Master of Arts in Education, Education Specialist, and Doctor of Education.

## History

Centuries before the white man came to Arizona, an Indian culture of significance had been established in Central Arizona. Just a short distance from the present site of Arizona State College at Tempe are remains of a civilization dating back to the eighth century. Here the Ho Ho-Kam tribe tilled the desert soil, bringing life-giving moisture to that soil from the clear waters of the nearby Salt River by an intricate system of brush dams and laboriously constructed canals.

The first white man known to have visited this region must have marveled at the pattern of life the Indians had left behind, for by the time Fray Marcos de Niza came up from Mexico in 1539, the tribe of Ho Ho Kam had vanished, no one knows where. De Niza was soon followed by the colorful but ill-starred expedition of Coronado. Others came, passed on. The desert land was too forbidding for even the most hardy. The Valley of the Sun slumbered.

Almost three centuries passed before courageous, adventuresome white men established permanent homes along the streams and in the mountains of this fabulous land. By 1863, sufficient numbers had gathered within the borders of the region to form the Territory of Arizona. President Lincoln appointed the first territorial governor, John N. Goodwin, who raised the American flag over the Territory, December 29, 1863.

Education in the frontier land progressed slowly until 1885, when on March 12, the Thirteenth Legislative Assembly made provision for



the establishment at Tempe of a Normal School. The Normal began classes on February 8, 1886. Thirty-one students met in a single room under the supervision of Hiram Bradford Farmer. The Normal School, forerunner of the present Arizona State College, was the first institution of higher learning to be opened in the State.

The College has had a variety of names starting with Arizona Territorial Normal School and proceeding to Arizona Normal School, The Normal School of Arizona, The Tempe Normal School of Arizona, and the State Normal School of Tempe, Arizona. In 1925, through the activities of the Alumni Association, the Seventh State Legislature approved a bill providing that the Tempe Normal School become Tempe State Teachers College and establishing a four year college curriculum. The Ninth Legislature changed the name of the College to read Arizona State Teachers College at Tempe and authorized the College to grant the degree of Bachelor of Arts in Education. In March, 1937, the Thirteenth Legislature authorized the College to grant the advanced degree of Master of Arts in Education, which degree was conferred the first time on May 31, 1938.

A complete revision of the system of governing the state institutions of higher learning took place on March 9, 1945, when the legislature established a Board of Regents of the University and State Colleges of Arizona, and changed the name of the College to Arizona State College at Tempe. This Board has broad powers. It has authorized new curriculums and courses, and during the past seven years, has authorized the College to award the Bachelor of Arts and the Bachelor of Science degrees (1946-47), the degree of Doctor of Education, awarded first on May 25, 1954, and, most recently, the degree of Education Specialist, authorized December 17, 1954.

In May, 1953, the Board of Regents approved a limited reorganization of the College and established a College of Arts and Sciences, a School of Education, and Departments of Agriculture, Business Administration and Industrial Arts and Technology. The first two were headed by Deans.

Following a study of the state's higher educational program, conducted by the United States Office of Education, the Board, on November 20, 1954, approved the recommendation of the survey committee as to reorganization and established four colleges, each with a Dean, at Arizona State College.

Thus, the College has had a gradual, positive evolution from the limited curriculum of a Normal School to a strong multi-purpose collegiate institution. From the original single building campus, there has grown a campus containing forty seven buildings on 150 acres and the original attendance of thirty-one has expanded to 5,300 for the academic year of 1954-55.

## Purposes

Arizona State College aims to serve the people of Arizona by providing an over all educational program appropriately reflecting the community interests of the people of the State as a whole as well as the needs and desires of individual students who enroll. Present institutional objectives which define the educational program of the college are the result of the evolution of the institution over a period of nearly seventy years.

The original scope of instruction as set forth in the act creating the Territorial Normal School was confined largely to "the instruction

of persons . . . in the art of teaching . . .". As the State and the College have grown, that original scope has been expanded until today, operating under the authority of the Board of Regents of the University and State Colleges of Arizona, the College has become a multi-purpose institution.

The general purpose of the College is to provide means by which all who pass through its doors may become, through increased vocational competence, improved moral and ethical standards, and expanded cultural horizons, better citizens of the state, the nation, and the world.

Attainment of this general purpose is made possible through specific programs of academic and other activities which are designed:

(1) To provide a basic program of general education. Broad social-cultural training is essential for effective living in a democratic society. Objectives related to good citizenship, sound judgment, personal efficiency, aesthetic appreciation, general knowledge, and vigorous health are, after all, fundamental and basic in all programs of higher education.

(2) To provide a number of programs of work in the arts and sciences which broaden and extend the basic program of general education and provide the beginning specialization necessary for advanced graduate and professional education. Majors or fields of specialization in the arts and sciences leading to occupational competency and the degree of Bachelor of Arts or Bachelor of Science are offered in: Agriculture, Art, Biological Sciences, Business Administration, English, Foreign Languages, Home Economics, Technology and Industry, Mathematics, Music, Health, Physical Education and Recreation, Physical Sciences, Psychology, and Social Studies.

(3) To provide programs for the selection and preparation of teachers and administrators for the elementary and secondary schools of Arizona. The people of the State have a right to expect that their children will be taught by teachers possessing high mentality, broad social cultural background of general education, high ideals of citizenship, thorough knowledge of subject matter, objective and scientific point of view, professional training and spirit, proven skill in the art of teaching, culture and efficiency in social relationships, wholesome personality, vigorous health, and sound character. The College aims to serve in the selection, development, and preparation of teachers of this type by offering three distinct programs: (a) a four-year program leading to the degree of Bachelor of Arts in Education; (b) a program of studies leading to the degree of Master of Arts in Education; and (c) a program of studies leading to the degree of Doctor of Education.

(4) To provide programs of pre-professional training in a number of fields. Pre-professional curriculums are offered in architecture, veterinary medicine, dietetics, forestry, engineering, law, medicine, dentistry, medical technology, nursing, optometry and pharmacy.

(5) To provide a number of less-than-degree programs of a practical type to give students the general education, skills, knowledge, and understanding needed for entrance into the vocations of their choice.

(6) To provide a rich and balanced program of out-of-class activities through the residence halls, student government, professional and special interest groups, organizations, fraternities, and sororities, that provide abundant opportunity for the development of wholesome individual personalities, refined social living, training in leadership and effective citizenship.

(7) To provide a program of help, guidance, and personal counseling that reaches all students.

(8) To provide a program of cultural and educational leadership and service in the community and the state as a whole. These professional and community services are provided through special evening courses, resident credit centers, correspondence courses, summer sessions, educational conferences, dramatic performances, musical concerts, speech clinic services, published bulletins, radio and T-V programs, placement services, alumni organizations, school visitation, speaker and consultant service.

## Recognition by Accrediting Agencies

Arizona State College is fully accredited by the recognized agencies of evaluation in its field. The College is approved by the North Central Association of Colleges and Secondary Schools, and in the American Association of Colleges for Teacher Education. It has institutional membership in the Association of American Colleges, the American Council on Education, and the Western College Association. Students transferring from this College to other colleges and universities are given the same recognition with respect to transfer of credits, graduate study, and other privileges as are enjoyed by other universities and colleges of the country.

## The College Setting

### Environment

*Location.* Arizona State College is located in the City of Tempe in the heart of the Salt River Valley and nine miles from metropolitan Phoenix, the state capital, and one of the fastest growing areas in the nation. Tempe is located on the Southern Pacific Railroad's main line and connections with the Santa Fe Railway are available at Phoenix. Four transcontinental highway systems run by the college grounds, affording easy access to all parts of the country. One of the nation's outstanding airports is located halfway between Phoenix and Tempe and provides frequent services via Trans World Airlines, American Airlines, Frontier Airlines, and Bonanza Airlines. The airway's network extends in all directions and there are at least 40 transcontinental flights daily. There is regular metropolitan bus service between Tempe and Phoenix and other adjacent communities.

*Climate.* The great adventure of this country has always been the act of heading West. That holds good today. Only in the West can the classic American combination of frontier informality and a civilization in the making still be found. In Arizona—above all, the district around Tempe—there is the additional blessing of the nation's most perfect climate. Here in the Valley of the Sun, prosperity can be found in a land suited to its enjoyment. Cloudless skies and bright, constant sunshine permit much of the college activity to be conducted outdoors. There is virtually no snow, rain is seldom, and high winds are infrequent.

*Historical and Scenic Features.* Within easy reach are found such exciting landmarks as Apache Trail, Canyon Lake, Roosevelt and Coolidge Dams, Hieroglyphic Canyon and the Casa Grande Ruins National Monument. Somewhat distant is the internationally famous Grand Canyon of the Colorado, one of the Seven Wonders of the World, and scenic Oak Creek Canyon, famed western beauty spot.

The Navajo, Apache and Hopi Indian Reservations are near enough for occasional visits and smaller tribal groups the Pimas, Maricopas and Yaquis—live but a few miles from the campus. At the Heard Museum in Phoenix and in the original excavations at Pueblo Grande, five minutes from the campus, the superb art of the ancient basket-weavers and Sun-worshipping Ho-Ho-Kam, may be studied.

Majestic mountains fringe the horizon—Camelback, Four Peaks, South Mountain and the Superstitions, being the most prominent. Papago Park, a natural scenic attraction retaining much of the original desert flora, lies just north of the campus. This beauty spot and its 1200-acre park is an ideal center for hiking, horseback riding, picnicking and painting.

## Grounds

The 100 acres comprising the campus proper, arranged in a most attractive setting with broad, shady lawns and dotted by a profusion of orange, olive, fig, and palm trees, present a veritable oasis in this desert land. Interestingly arranged hedges and a variety of shrubs combine with gayly blooming flowers to give an inviting vista of restful color.

The forty-seven buildings comprising the main campus are distributed over the grounds in two groups, commonly designated by students as the north campus and the south campus.

Some, like the Science building, are in tints of lime green. Others, in golden brown brick, are trimmed in the vivid colors typical of the southwest. Classrooms and laboratories are full of sunshine and decorated in soft, pleasant colors.

The prospective student needs to see the tropical fruit and nut trees growing on the campus, to marvel at the desert's rare coloration, to visit the fabulous mountains nearby and to bask in the warm, comfortable climate, to really appreciate the campus. It's a friendly,

democratic campus, where students from every state in the Union and many foreign countries seek a source of power and happiness—the gold of knowledge for a richer, fuller life.

*College Farm.* The model farm of seventy-five acres is located one mile south of the campus. It is used for experimental and practical work in various phases of agriculture.

## College Buildings

### Administration

*Administration Building.* The administrative offices of the College are housed in the north wing of this imposing structure, the largest on the campus. In it are located the President's Office, Office of the Vice President, Dean of the College of Liberal Arts, Director of Graduate Studies, the Registrar's Office, the Business Office, the Division of Student Affairs, the Alumni Office, and other administrative sections. It is especially noted for a magnificent entrance mural in fresco, done by Jean Charlot.

*Lyceum.* The main floor of this attractive building contains an auditorium seating 300, a stage, a kitchen, and provides temporary office space for the Air Force ROTC. The basement is utilized by the Psychological and Reading Clinic. The auditorium is used by students and faculty for frequent social and educational functions.

### College Libraries

*Matthews Library.* This modern, fire-proof, air-conditioned building provides outstanding facilities, and a growing collection of materials to meet the needs of undergraduate and graduate students and the faculty. Recently remodeled and enlarged at a cost of more than a half-million dollars, the functional plant and the beautiful decor contribute to make the Library a most attractive, comfortable, and efficient place for intensive study or for casual reading. It is indeed a "great new heart" of the institution. Arranged for subject specialization, there are reading rooms for Education, Humanities, Science and Technology, and the Social Sciences. In addition to these special reading rooms, there are: a well-stocked General Reference Room, a Periodical Room with over twelve hundred current subscriptions, and a Browsing Room for recreational reading. A splendidly equipped Music Room, a gift of Mrs. Mary Redewill, widow of the late music patron Eugene Redewill, permits students to listen through individual devices, to the finest in classical recordings and radio programs. There are sixty individual study carrels available in the stacks for graduate students pursuing theses or practicums. The significant Collection of American Art is hung in the library's gallery and reading rooms.

*Training School Library.* In addition to the general library, there is a children's library in the Training School. This collection contains more than 5,000 carefully selected juvenile books covering all types of literature. The book collection is supplemented by a file of pamphlets,

pictures, and other materials; by a selection of outstanding juvenile periodicals; and by a textbook collection for the enrichment of directed teaching as well as for the children's use.

*Curriculum Laboratory.* The Curriculum Laboratory, housed in the new Library Building, is a functional part of the teacher education program of the College. It is designed to serve teachers in training and Arizona teachers in service by maintaining extensive collections of teaching materials and providing laboratory space for producing materials.

The library of printed materials includes courses of study issued by school systems, publications of various state departments of education, textbooks used in Arizona elementary and secondary schools, monographs, teaching units, and other pertinent publications.

Facilities are available for curriculum workshops, discussion groups, curriculum study and research effort and all types of curriculum production activities.

*Bureau of Audio-Visual Aids.* The Bureau of Audio Visual Aids is an audio-visual service agency for the instructional program of the College and for the schools of Arizona.

The Audio-Visual Library, valued at more than a hundred thousand dollars, is the largest library of films in the state of Arizona. The films are cooperatively owned by the fifty nine member schools, by Arizona State College, and by a number of government agencies and industries which deposit films in the Audio Visual Library. These films are available on a rental basis to any responsible organization or school in Arizona.

A library of educational radio programs on tape recordings is being developed. Schools wishing to acquire these tape programs may send their tapes to the Audio-Visual Library and obtain any program which the Library has.

The Library maintains and services all audio-visual equipment used by the various College departments.

*Photography Section:* The Photography Section of the Bureau of Audio-Visual Aids handles all of the photography for the College for both instructional and publicity purposes. A group of nine dark rooms and a photographic studio provide facilities for carrying on the work of the Photography Section, and provide laboratory facilities for courses in photography and the production of audio-visual aids. These dark rooms are also used by members of the State Camera Club.

In addition to the more usual types of photography, the Photography Section is also equipped for microfilming, making of identification pictures, making negatives for multilithing, and producing motion pictures with magnetic sound tracks.

*Radio-Television Section:* The Radio Television Section of the Bureau of Audio-Visual Aids has a professionally equipped radio set up in the basement of Matthews Library (Rooms 12, 13, 15, 16) made up of three studios, a master control room, and a sub-control room. The facilities are used for origination of 60 hours of broad-



casting each week over KASC, the campus "wired wireless" station; recording and origination of college radio programs broadcast over local commercial stations; and preparing recordings for individuals and organizations connected with the College.

Though there are as yet no television facilities on campus, the Radio-Television Section prepares regular educational television series which are presented over the local commercial stations in Phoenix and Mesa in an effort to extend the educational resources of the College to the people of central Arizona. Many college radio programs are carried through state networks to all parts of the state. The Radio Television Section also provides the Audio Visual Library educational tape recordings, copies of which are available to educational institutions throughout the state for classroom use.

*The Arizona State College Collection of American Art.* The Collection of American Art, comprising 85 original paintings in oil, water color and tempera, 23 works of sculpture, and an extensive print collection, is on permanent display in Matthews Library. It has been called "one of the most significant contributions to the cultural life of Arizona in the history of the state."

Presented anonymously by a citizen of Phoenix, this famous collection has superb works by Gilbert Stuart, Sully, Benjamin West, Audubon, Morse, Eakins, Ryder, Winslow Homer, and most of the other American old masters of the 18th and 19th centuries, as well as representative works by great modern masters such as Georgia O'Keefe, Marsden Hartley, John Marin, Speicher, Rattner, Ben Shahn, Tamayo, Tanguy, Roszak, Lipchitz, Calder, and many others.

## Classroom and Laboratory

*Agriculture and Business Administration Building.* This is one of the most modern and functional classroom and office structures in the Southwest. It comprises the south wing of the building which houses the administrative offices.

*Arts Building.* This is a modern, fire proof building of concrete construction faced with cream brick. It houses the departments of Art, Music, and Social Studies. The College Book Store is located in the building.

*Band Building.* This building is located southeast of the heating plant and is the headquarters for the band. It contains rooms for band rehearsal, ensemble and private practice, instrument storage, and offices.

*English Building.* Classrooms and offices for English, speech and journalism are housed in this attractively remodeled structure, as well as the offices for all student publications.

*Farm Buildings.* A home and barns are located on the college farm one mile south of the campus.

*Home Economics Building.* A splendid, completely equipped new structure which houses the Home Economics Department has been constructed at the north edge of the campus adjacent to the Arts Building

and in close proximity to the Home Management House and Nursery School. This new structure provides the latest facilities for technical courses in homemaking.

*Home Management House and Nursery School.* A fine, new building in which students majoring in Home Economics live for a part of a year. A modern nursery school is also housed in this building.

*Industrial Arts Building.* The Industrial Arts Building is the west wing of Goodwin Stadium. The building houses the machine, electronics, and woodworking shops of the Industrial Arts Department. Close by are quarters for architecture, sheetmetal, aeronautics, and auto mechanics.

*Old Main.* The early traditions of the college cluster about Old Main with its three stories of ivy covered brick. Erected in 1894, the building has been completely remodeled inside, and new entrance ways have been installed. It is devoted to classrooms and offices for academic work and houses the College of Education.

*Ira D. Payne Training School.* This is a one story structure of brick in the Spanish-Colonial style with open corridors or colonnades enclosing an attractive patio. The classrooms, furniture, apparatus, and equipment are in keeping with a modern, progressive elementary school system. The old College dining hall, adjacent to the Training School, has been converted for use by Training School students.

*Science Building.* This fine, modern building offers outstanding classroom and laboratory facilities for students in the biological and physical sciences.

## Physical Education and Recreation

*Men's Physical Education Building.* Completed in 1952, the magnificent new Men's Physical Education Building is the newest addition to the campus. It is of the latest type construction, contains ample gymnasium space, classrooms, offices and many other features which make it outstanding. The basketball area will ultimately provide seating for 6,000 spectators. The classrooms and offices of the Department of Military Science and Tactics are located on the second floor of this building. The drill area is located immediately in rear of the gymnasium.

*B. B. Moeur Activity Building.* This is the instructional center for women's physical education. Many of the large social functions of the college are held here. The building was named in honor of the late Governor Moeur.

*Goodwin Stadium.* The stadium was named after the late Garfield A. Goodwin, an early graduate of the Territorial Normal School, and a member of the Board of Education for many years. The west unit has a seating capacity of over 4,000. Another unit located on the east side of the field increases the seating capacity about 7,000. Additional bleacher seats allow 15,000 persons to be seated.

## Residences

*President's Residence.* This is a substantial, two-story, brick structure located on the east side of the campus.

*North Campus Cottage.* An attractive brick home occupied by a staff member.

*Science Annex.* A brick cottage used as a research center.

## Residence Halls

*Adelphi Housing.* Five units of a most attractive development for men have recently been completed on a fifteen acre site three blocks southeast of the campus. Each unit houses thirty students and contains a living dining room and kitchen. They are occupied by recognized student groups and organizations.

*Alpha Hall.* This dormitory for women is the Pan-Hellenic Center for the College. Headquarters, chapter rooms, and living accommodations for national sorority members are maintained here.

*Carrie J. Matthews Hall.* This hall for women was named after Carrie J. Matthews, the wife of former president Arthur J. Matthews.

*North Hall.* This women's hall is located on the north side of the dormitory quadrangle.

*South Hall.* South Hall accommodates women. It is located on the south side of the dormitory quadrangle.

*West Hall.* This fine, large dormitory for women is located on the west side of the dormitory quadrangle.

*Dixie Dees Gammage Hall.* This is a modern structure for women. The hall was named in honor of Dixie Dees Gammage.

*Dixie Gammage Annex.* New additions to Dixie Gammage Hall have recently been completed, providing accommodations for 225 women students. This new residence hall is located directly north of Dixie Gammage Hall and embodies the very latest developments in resident hall construction.

*New Women's Hall.* A new residence hall for 150 women is under construction just south of Dixie Gammage Hall. It should be ready for occupancy in the fall of 1955.

*East Hall.* This dormitory for men is located at the center of the campus.

*Irish Quadrangle.* This comprises a series of men's dormitories located just west of Goodwin Stadium. A new addition to the quadrangle will house 200 men students.

*Charles Trumbull Hayden Hall.* A new men's dormitory accommodating 146 students has been constructed on the south edge of the campus, facing federal highways. It is modern in construction and contains many conveniences and facilities for pleasant living.

*La Ramada Hall.* LaRamada Hall is a temporary women's dormitory. It consists of four frame buildings obtained from the United States Government.

*Stadium Hall.* This dormitory for men is located underneath the east section of Goodwin Stadium.

*Victory Village.* In this village there are about 66 apartments for the accommodation of veterans and their families.

*Palm Grove.* These apartments are located one mile south of Tempe and will accommodate 16 families.

### Student Services

*Memorial Union.* The student life-center on the campus of Arizona State College is the magnificent new Memorial Union Building, located on the southeast corner of the main campus intersection and in close proximity to classrooms, dormitories, and all activity centers. A large part of the financing which made the Union possible came through contributions from faculty, alumni, students, and friends of the College.

The College dining hall is located in the Memorial Union, as are the College Bookstore and the snack-room, known as the Devil's Den. Recreation rooms, providing space for table tennis, billiard tables and bowling alleys, are located in the basement. A comfortable lounge and student-body offices occupy the ground floor, while a splendid ballroom, available also for banquets and larger social functions, is located on the second floor. An expansive terrace overlooks the spreading campus, adding a touch of the out-of-doors to the structure.

*Student Health Center.* An expanded and reconstructed College Health Center was opened for service in mid-1953. This building, located in a quiet section on the east side of the campus, provides most adequate facilities to care for the health needs of college students.

*Danforth Meditation Chapel.* A chapel for devotions by individuals and small groups made possible by a gift of \$5,000.00 by William Danforth supplemented by gifts from numerous students, faculty, and friends of the college.

### Maintenance

*Maintenance Building.* This new building located just north of the Men's Physical Education Building is the center for the receiving, storage, and disbursement of all supplies and equipment. The switch-board and the mimeograph office are located here.

*Heating Plant.* The plant is located centrally just south of the dining hall. It furnishes steam heat and hot water to all college buildings.

# Entrance Information

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## Admission to College

### General Requirements

*Personal Qualities.* Arizona State College desires to admit only persons possessing good character, and serious purpose. They should possess such degree of health that success in the vocation selected may be expected. In addition, candidates for the professions should rank high in personality traits including native ability.

*Transcripts.* Before any student may register for work in the regular sessions of the college, and be admitted to regular standing and classification, his transcripts of high school and previous college work done must be on file in the Office of the Registrar and Director of Admissions. Students should request the high school principal or college registrar to mail the transcript directly to the Registrar and Director of Admissions. Transcripts should be in the hands of the Registrar and Director of Admissions at least thirty days in advance of the registration date. Transcripts are not required at the time of admission of those taking work in the summer session, in extension, or by correspondence.

*Vaccination:* A certificate of smallpox vaccination signed by a physician must be on file in the Office of Registrar and Director of Admissions before a student may be notified of his admission status.

*Health Examination.* A health examination is required, prior to registration, of all students attending regular session and carrying more than 5 semester hours. This is given without charge by the Health Service staff. Late registrants must secure the examination form from the Student Health Service, and have it completed by an M.D. Such students pay the cost of the medical examination. A physician's certificate of small pox vaccination within the past four years must be furnished at the time of the health examination.

A chest X ray, to be interpreted by a roentgenologist, is required without exception of all students at a time to be announced by the Student Health Service. Any student who fails to have an X-ray at this time must bear the cost of having it done later.

*Aptitude Tests.* Several aptitude tests are required of all *new students before registering* with the following exceptions: those registering for not more than five semester hours of work, summer session students, extension students, and those taking late afternoon, evening or Saturday classes only. These tests have nothing to do with a student's entrance. They are used for student guidance. They require several hours; therefore, a new student cannot complete his tests and registra-

tion in one day. Students whose score falls below a critical point in the English achievement test will be required to take Eng. X to improve their reading and study skills before registering for Eng. 101. See the section headed, "The College Guidance Program" for description of tests.

### High School Graduates

Graduates of an approved high school may be admitted to freshman standing in any of the curriculums offered by the College.

The units listed below are specified for admission. To meet these specifications, credits will be accepted for any subjects in these fields usually given in high schools. In addition, credits will be accepted for general or unified courses, irrespective of the names or organization of the courses, provided the subject matter covered falls within the fields specified.

English .....	3 units
Social Studies .....	2 units
Mathematics (Arithmetic is accepted) .....	1 unit
Science .....	1 unit

### Conditional Admission

*Graduates of Unapproved High Schools.* Graduates of unapproved high schools may be admitted provisionally upon passing satisfactorily the regular aptitude tests. Provisional admission will be removed on the successful completion of the first thirty semester hours of college work.

### Non-Graduates of High Schools

1. *High School Seniors.* High school seniors under 21 years of age with only a limited amount of work to complete in order to meet the requirements for the high school diploma may be admitted under the following conditions:

- (a) The written recommendation of the high school principal and an affirmative vote of the Admissions and Standards Committee.
- (b) A plan for completing high school work with the written approval of the high school principal, and an affirmative vote of the Admissions and Standards Committee.
- (c) The completion of high school graduation requirements prior to the admission to sophomore standing.

2. *Adult Civilians, and Veterans Over 18.* Civilians over 21 years of age, and veterans over 18 years of age who are not graduates of approved high schools may be admitted to undergraduate standing with conditions. These conditions may be removed during the second semester in college as follows: (a) complete at least 60 semester hours with an index of 1.75 or better. (b) an affirmative vote of the Admissions and Standards Committee.



Students, not graduates of approved high schools, whose records are not satisfactory may continue in college only if approved by the Admissions and Standards Committee. The Veterans' Education Adviser is located in the Office of the Registrar and Director of Admissions. He advises veterans under P. L. 346. A Veterans' Administration representative is located on the campus. He advises veterans under P. L. 16.

### Special Information for Veterans

Arizona State College is fully accredited by the Veterans' Administration. Veterans will follow the procedures outlined above under the heading, "Admission to College." In addition, veterans will observe the following special procedures:

1. Veterans not previously in training under the G.I. Bill will obtain from the Veterans' Administration, Regional Office, Phoenix, Arizona, a Certificate of Eligibility and Entitlement to attend Arizona State College.

2. Veterans previously in training under the G.I. Bill will obtain from the Regional Office nearest the institution which he last attended a supplemental Certificate of Eligibility and Entitlement.

3. Veterans will deliver these certificates to the Veterans' Accounts Officer at the College in person at the time of registration.

4. Veterans should bring their records of military or naval experience, and deliver these in person to the Office of the Registrar and Director of Admissions *not earlier* than one month after registration if they seek college credit for military science.

5. Only advanced standing credit will be recognized where credit is granted on the basis of G.E.D. examinations, i.e., the student who presents official records of having successfully passed the college level G.E.D. examinations as a part of his admissions credentials may be granted credit as recommended by the American Council on Education Guide Book. Such credit will be granted upon admission, if the G.E.D. tests were taken during the time the student was a member of the armed services. Credit based on G.E.D. examinations taken after discharge from the armed services will be granted upon admission only after the merits in each individual case have been considered.

In no instance will credit be granted on the basis of G.E.D. examinations when such examinations have been taken after the student has been admitted to the Arizona State College at Tempe or other college or university. The purpose of granting credit based on G.E.D. examinations is to recognize educational training and experience acquired while serving in the armed forces in the case of those individuals whose educational program was interrupted or delayed by virtue of that period of service.

6. Veterans desiring to enter R.O.T.C. so as to qualify for a commission in the Army or Air Force should contact the Professor of Military Science and Tactics or Professor of Air Science prior to registration.

7. Veterans must be in continual attendance in training after July 25, 1951. Changes of course and/or place of training must be applied for while the veteran is in actual attendance in a college or university. Failure to comply with either of the above may result in the forfeiture of remaining entitlement by the Veterans Administration.

### Admission with Advanced Standing

1. Students from approved institutions of higher education ordinarily will be given credit, hour for hour, for work done in these institutions in so far as it applies to the requirements of the curriculum pursued at Arizona State College. Advanced standing credit for educational experience in the armed services will be granted in terms of the policies and practices recommended for all colleges and universities by the American Council on Education.

2. Failure to report previous college attendance at the time of registration is sufficient cause for cancellation of the student's enrollment, of any credits earned, or both.

3. Students who are disqualified in another college because of scholarship, conduct, or any other reason will not be admitted until such disqualification is removed.

4. Experienced teachers who become candidates for the bachelor's degree may be permitted to substitute academic credits for a part, or, in some cases, all of the required directed teaching, but no academic credit is allowed for teaching experience. A student who wishes to have directed teaching waived must file a petition and letters of recommendation from principals or superintendents with the Director of Teacher Training.

5. Junior-college students planning to transfer to Arizona State College at the end of their first or second year should plan their junior-college courses to meet the requirements of the curriculum selected. Loss of time often results from failure to do this.

The maximum credit that can be accepted from a junior college is sixty four semester hours or ninety six quarter hours. In general, required upper division professional courses cannot be taken in junior colleges for credit. Ordinarily, courses transferred from junior colleges cannot be accepted as upper division credit.

### Admission to Summer Session

Excepting those who plan to complete the degree requirements in summer sessions only, students will be admitted to the summer session without presentation of transcripts.

## Registration

*Registration Dates.* Students should register on the registration dates announced in the College calendar. New students cannot complete the required aptitude and health examinations and finish registration in one day. Students registering late will be charged a late

registration fee. Residence halls will be open to students on the dates scheduled in the College calendar.

*Prerequisites to Registration.* Before registering in the regular sessions, all students seeking admission must file transcripts of high school or college work, or both, and take the aptitude and health examinations required under the heading, "Admission to College." In addition, students must meet special requirements given hereafter. Undergraduate students file applications for admission and transcripts in the Office of the Registrar and Director of Admissions. Graduate students file theirs in the office of the Director of Graduate Study.

*Classification of Students.* Freshmen are those students enrolled in a regular curriculum who have acquired less than 30 semester hours of credit; sophomores, those with 30 or more semester hours, but less than 62; juniors, those with 62 or more, but less than 94; seniors, those with 94 or more; graduate students, those holding a bachelor's degree from Arizona State College at Tempe, or any other recognized institution. Special students are those who are not enrolled in any curriculum leading to a degree but who desire instruction in subjects of special interest to themselves.

*Curriculum Advisers.* Before entering college a student should study the curriculums outlined in order to determine the curriculum best suited to his interests and needs. Before registering, each student must select, tentatively at least, a curriculum. Each student selects a curriculum adviser. This adviser discusses with the student his proposed curriculum, his choice of courses, and approves both. He advises him as needed throughout his stay in college.

*Course Loads.* Students carrying twelve or more semester hours of work are classified as full-time students for college classification purposes. *Students attending college under the benefits of Public Laws 346 or 16 must be registered for a minimum of 12 semester hours for G.I. benefit and subsistence purposes. Students attending under the Korean G.I. Bill of Rights must be registered for a minimum of 14 semester hours to be classified as a full-time student for G.I. benefit and subsistence purposes. Male students to qualify as full time college students for Selective Service classification purposes must be registered for and complete, each semester, one eighth of the number of semester hours required for a degree. Thus, male students subject to the draft must be registered for and complete sixteen semester hours each semester. Students may not be registered at any other college or university when in regular attendance here unless approval has been granted by the Admissions and Standards Committee. Residence Center and Campus enrollment must not exceed the maximum load of 17½ semester hours without an approved overload petition. Students who wish to carry more than 17½ semester hours must petition the standards committee of the college in which they are registered. Freshmen and lower division transfer students attending Arizona State College for the first time will not be permitted to carry an*

overload. Students having a low scholarship record may be required to carry a light load. Students carrying a full time school job will be asked to carry a light load unless their previous records in scholarship and on aptitude tests are high. During the semester in which a student is registered for student teaching, the load should not exceed 16 semester hours.

*Planning the Schedule.* The schedule of classes covers both morning and afternoon hours, Monday, Tuesday, Wednesday, Thursday, and Friday, and morning hours only on Saturday. Full time students are expected to devote both mornings and afternoons to their program of studies. They should not plan to take classes mornings only, or afternoons only, or less than five days per week.

*Course Restrictions.* Freshmen may not register for courses numbered "200-299" without the recommendation of their advisers and the approval of the heads of the departments concerned. Courses numbered "300" and above are open to graduate students only. Courses "400" and above are open primarily to students who have been admitted to the doctorate program in Education. Courses numbered "200g" may be taken by graduate students for graduate credit.

*Freshman Registration.* Freshmen, including transfers with 29 semester hours or less of credit, registering for the *first semester*, are expected to be present at all events scheduled for Freshman Week as shown in the college calendar. Failure to attend any meeting may delay the student's registration. See the section on the preceding page headed "Curriculum Advisers."

Freshmen, including transfer students with 29 semester hours or less of credit, registering the *second semester*, will report to Bus. Adm. 203 at 8:30 A.M., Friday preceding the registration dates, and complete their aptitude and health examinations on Friday and Saturday. Those arriving late will be delayed in registering and will be charged late fees.

*Registration of Sophomores, Juniors, and Seniors.* Sophomores, juniors, and seniors registering in the regular session for the first time the *first semester* will obtain their registration materials according to the college calendar. They will report for aptitude tests as scheduled on the registration week program. This will enable them to complete their aptitude and health examinations and complete registration before the end of registration week. Those failing to do so will be charged the late fees.

For the *second semester* sophomores, juniors and seniors registering in the regular session for the first time will report for the aptitude and health examinations as scheduled on the registration week program. Those coming later will be delayed in registration and will be charged the late registration fee.

*Registration of Graduates.* Aptitude tests are not required of graduate students, but the health examinations are; therefore, such students should allot themselves a full day to complete these examinations and registration.

*Auditors.* Persons wishing to audit courses will register in the regular manner and pay the regular fees. Audited courses carry no credit. Courses audited count toward the student's load. Students once registered for "audit" are not permitted to change to "credit" (and vice versa) after the close of the drop add period.

*Comprehensive Examinations.* An undergraduate student regularly enrolled during the academic year may, under certain conditions, take Comprehensive Examinations for degree credit in courses offered by the college and included in the current catalog. *This procedure is not open to summer session students.*

Students wishing to obtain credit by comprehensive examination will secure application forms from the Office of the Vice President. The charge for the comprehensive examination shall be five dollars (\$5.00) per semester hour credit. An examination may cover one course only.

Letter grades of A, B, C, D and E will be used in grading the examination. If the grade is A, B, or C, a grade of Cr. will be entered on the student's permanent record. If the grade on the examination is D or E, no entry will be made on his permanent record. Entries on the permanent record of credit by examination shall be so indicated. The student will not be given a second opportunity to establish credit by examination for the same course. The number of hours credit granted for the course shall be the number of hours specified in the current catalog.

*Late Registration.* Late registration fees are charged beginning the day class instruction begins. Ordinarily, students registering during the second week of a semester are required to take less than the normal load. Registration for a given semester is closed Saturday noon of the second week. A student may not register for credit after this date.

*Incomplete Registration.* Registration is not complete until all fees have been paid and all required examinations have been taken. Failure to satisfy any of the admission or registration requirements is sufficient cause for dropping a student from all classes.

*Changes in Registration.* Programs should be carefully planned under the guidance of the curriculum adviser so that changes in registration will not be necessary. After a student has completed his registration, changes may be made only through the Registrar's Office by means of a Drop-Add card. Changes may be made as late as Tuesday of the second week of the semester. After Tuesday of the second week of the semester, courses may not be added.

*Dropping Courses After the Close of Registration.* The courses for which a student is registered at the close of the late registration period constitutes his official registration and semester load. A student may drop a course from his official registration any time prior to the beginning of the final examination period. To drop a course after the close of registration, the student will obtain from the Office of the Registrar and Director of Admissions an Authorization

for Dropping Course form. The procedure for dropping a course is as follows: (1) Obtain the approval signature from your curriculum adviser. (2) Obtain the approval signature of the Dean of the College in which you are registered. (3) Obtain the approval signature of the instructor for the course you are dropping. (4) Obtain the signature approval of the Dean of Students (men) or the Associate Dean of Students (women). (5) Obtain the approval of the Cashier in the Business Office at the time you pay the fee for dropping course. (6) Obtain the signature approval of the Veterans Accounts Office if you are attending under any of the G.I. programs. (7) Take the Business Office receipt and the Authorization for Dropping Course form to the Office of the Registrar and Director of Admissions. An official drop notice will be sent to your instructor from the Office of the Registrar and Director of Admissions after the drop card has been filed. The drop notice is attached by the instructor to the student's class card and a final semester grade of Wp or We will be reported by the instructor at the end of the semester.

*Withdrawal from College.* Students who find it necessary to withdraw from college should withdraw officially. Failure to do so may result in marks of E in all classes. The withdrawal procedure is as follows: (1) Obtain a withdrawal card from the Office of the Registrar and Director of Admissions. (2) Obtain approval signature of the Dean of the College in which student is registered. (3) Obtain the clearance approval of the Dean of Students (men) or the Associate Dean of Students (women). (4) Obtain the clearance approval of the Student Health Service (if withdrawing for health reasons). (5) Women students obtain the clearance approval of the Women's Physical Education Department. (6) Men students registered for R.O.T.C. obtain clearance approval of the R.O.T.C. Department. (7) (Veterans only) obtain clearance approval of the Veterans Accounts Office. (8) All students obtain clearance from the library. (9) Return the official withdrawal card to the Office of the Registrar and Director of Admissions and the withdrawal clerk will accompany you to the Cashier in the Business Office. An official drop notice is sent to instructors from the Office of the Registrar and Director of Admissions after the drop card has been filed. The drop notice is attached by the instructor to the student's class card and a final semester grade of Wp or We will be reported by the instructor at the end of the semester.

Unless the student withdraws officially, he is regarded as registered in all courses and runs the risk of receiving E grades in all subjects at the end of the semester. If a student is unable personally to withdraw officially as prescribed above because of illness or other reasons, he should notify the Registrar and Director of Admissions in writing without delay and request that he be officially dropped and that his instructors be notified.

# Financial Assistance and Awards

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## Scholarships and Fellowships

*Arizona State College at Tempe Scholarships.* A number of scholarships are awarded annually to new students and students currently enrolled who satisfy the requirements established by the Board of Regents of the University and State Colleges. Three types of scholarships are available: (1) Those restricted to students graduating in the upper one-fourth of their high school class and giving outstanding promise of high collegiate scholastic achievement; (2) Those selected as representatives of foreign nations who have previous satisfactory scholastic records and show promise of achievement in promoting good international relations; and (3) Those restricted to students graduating in the upper two-thirds of their high school class and giving promise of satisfactory collegiate scholastic achievement and of outstanding success for skills or talent in the institution's program of approved activities, and of developing desirable qualities of character and leadership. These scholarships may provide for the remission of one or more of the following fees: regular registration and class fees, fees for private lessons, and out-of-state tuition fee. In addition, they may provide for room and board, or a cash award to aid in defraying the student's expenses. These scholarships may be renewed annually upon re-application by the student and approval of the Scholarship Committee. Arizona high school students may obtain application and recommendation forms early in February from the office of their high school principal or student counselor. Out-of-state students should write directly to the Chairman of the Scholarship Committee, Arizona State College, Tempe, Arizona. All applications must be received by the Scholarship Committee by March 15.

*A-1 Brewing Company Scholarships.* Two scholarships of \$600.00 each are provided annually by the Arizona Brewing Company, Inc. of Phoenix, Arizona to students in the field of Business Administration. These scholarships are awarded on the basis of need, scholarship, and traits of American citizenship. Preference will be given to Arizona students.

*Agriculture Scholarships.* The Valley of the Sun Kiwanis Club, Phoenix, as one of its service projects, sponsors an agriculture scholarship fund from which a number of scholarships are provided annually to students at Arizona State College at Tempe who are registered under the four-year agriculture curriculum. Contributors to the 1954-55

scholarship fund included the following individuals and business firms: Advance Seed Co., Allied Grain Co., Hooper Concrete Pipe Co., and the Valley of the Sun Kiwanis Club. These scholarships provide for a cash stipend of \$300.00, payable \$150.00 each semester. Recipients must be residents of Arizona and be full time students registered under the four-year agriculture curriculum. In making the awards, the primary factors to be considered will include: scholarship, ability and promise, personality, character, leadership, and financial need.

*Elenore Altman Scholarship.* One scholarship is given each year to an A. S. C. student majoring in piano. The scholarship defrays all fees for one year's study of piano.

*American Institute For Foreign Trade Scholarship.* The American Institute For Foreign Trade awards annually a tuition free scholarship to a male graduate of the Arizona State College at Tempe. This scholarship is valued at \$850.000 and covers the total tuition for a full year at the American Institute For Foreign Trade. In making the award, the following qualifications will be given consideration: (a) quality of scholarship throughout the undergraduate years, (b) personality and character, (c) genuine interest in living and serving abroad, (d) professional background, (e) business experience, and (f) financial need. Preference is given to men who are from 25 to 32 years of age.

*American Legion Scholarships.* Ten scholarships are given to sons of deceased veterans of World War I and II. Selections are made from the United States at large. The awards are \$400.00 for the first year, and \$100.00 for three months of actual attendance thereafter.

*Arizona Dairy Technology Society Scholarship.* The Arizona Dairy Technology Society awards a \$225.00 scholarship to students enrolled in any Arizona College or University offering a field of study in Dairy Manufacturing. (The term Dairy Manufacturing, as used herein, shall be taken to embrace the field of training in Dairy Technology or Manufactures offered by any university or college. The awarding of scholarships is NOT limited to those schools of higher learning adhering to the specific nomenclature—"Dairy Manufacturing Course.") The award is made to a full time junior or senior student registered under an area of concentration in dairy manufacturing or dairy production, and is based upon interest in the field of dairy manufacturing, scholarship, leadership, character, and financial need. Preference will be given to residents of Arizona.

*Miss Arizona Scholarships.* The Arizona State Fair Commission each year makes available to each of the three top contestants in the Miss Arizona Contest a \$500.00 scholarship to be used at the Arizona State College at Tempe or Flagstaff or at the University of Arizona. To be eligible for the scholarship the contestant must be qualified to enter one of the State Colleges or the University, or must qualify for entrance within one year.



*Arizona Cattle Growers Association Scholarship.* A freshman scholarship of \$300.00 is awarded annually by the Arizona Cattle Growers Association to an outstanding boy or girl graduate of an Arizona high school. The primary qualifications for this scholarship include: scholarship, leadership, and character. Need will be given secondary consideration.

*Arizona Congress of Parents and Teachers Scholarship.* The Arizona Congress of Parents and Teachers awards annually a scholarship of \$100.00 to a student who will enter Arizona State College at Tempe, to pursue a Teacher Training curriculum. The primary considerations in awarding this scholarship include: promise of a successful teaching career, above average scholarship, and need.

*Arizona Sales Executive Club Scholarship.* A scholarship of \$300.00 is provided annually by the Arizona Sales Executive Club of Phoenix, Arizona to a student in the field of Marketing (Sales). This scholarship is to be awarded on the basis of interest in selling, leadership, character, scholarship, and fitness to do sales research.

*Art Scholarships.* Two full tuition scholarships, renewable annually for four years on the basis of continued achievement, are awarded each year through National Scholastic Art Awards to high school seniors who win this honor at the national competition held annually in Pittsburgh following forty one regional exhibitions. Applicants must submit portfolios to regional jurie which then pass qualified work on to the national for national judging. For application forms write (not later than January of the year of graduation from high school) to National Scholastic Art Awards, 33 West 42nd Street, New York 36, New York.

*Associated Women Students Scholarship.* This \$100.00 scholarship is awarded to a high school senior girl, outstanding in scholarship, personality, and extra curricular activities.

*Blue Key Scholarships.* The Arizona State College Chapter of Blue Key awards a number of scholarships to graduates of Arizona high schools. These scholarships provide for the payment of registration fees, R.O.T.C. uniform deposit, and books. The awards are made on the basis of scholarship, character, participation in extra curricular activities and need. The scholarship may be renewed for the sophomore year.

*Borden Agricultural Scholarship.* An annual scholarship of \$300.00 is provided by the Borden Company Foundation, Incorporated, to the senior student in agriculture who has achieved the highest average grade of all similarly eligible students in all college work preceding their senior year. To be eligible, the student must have included in his curriculum at least two dairy courses in the period of his studies prior to the beginning of the scholarship.

*Commercial Life Insurance Company Scholarship.* The Commercial Life Insurance Company of Phoenix, Arizona, offers a scholarship of \$500.00 annually to a resident or transfer student of junior or senior

standing at Arizona State College at Tempe. In making the award, need, leadership, character, and promise of future achievement will be given primary consideration. Normally, the student should be a resident of Arizona with a scholarship index equal to the college average.

*Eastern Star Scholarship.* The Grand Chapter of the Order of Eastern Star of Arizona awards annually a \$200.00 scholarship to a graduate of an Arizona high school. The scholarship is awarded to a junior or senior in college. The recipient must be a daughter or sister of an Eastern Star member, or must herself be a member of an Arizona Chapter of the order of Eastern Star. In selecting the recipient, character, leadership and scholarship will be given primary consideration.

*Foreign Student Scholarships.* Eighteen scholarships are available to qualified students from foreign countries. Ability to read and speak the English language is required. Six of the eighteen may be awarded to graduate students. Scholarships cover the regular registration and class fees and out-of-state tuition.

*Dixie Gammage Memorial Scholarship.* A scholarship to the Music Camp valued at \$60.00. The award is made by auditions at the College.

*Arthur Emery Harvey Scholarship in Applied Music.* A scholarship in applied piano is given yearly by Hazel Harvey Quaid to the freshman ranking highest in piano sight-reading, repertoire and general musicianship. Examinations are given during Freshman Week.

*Indian Scholarship.* Two four year scholarships are awarded annually to Arizona Reservation Indians who have demonstrated ability in the fields of scholarship and leadership. These scholarships cover all tuition, registration and class fees for four years.

*W. K. Kellogg Foundation Scholarship.* Students in the last or clinical year (within one year of active service) of the medical technology course may be awarded scholarships after they have completed at least 10 weeks of the work of this year. The scholarships are valued at about \$75.00.

*Los Conquistadores Scholarships.* The club gives each year a scholarship of \$200.00 to a worthy Spanish-speaking high school graduate of Arizona. The scholarship is paid in \$50.00 amounts at the beginning of each semester for four semesters. The award is made on the basis of need, scholarship, character, and promise of future success.

*Marshall Foundation Medical Scholarships.* The Board of Directors of the Marshall Charitable Foundation has established a fund for a number of scholarships to be made available to graduates of the Arizona State College at Tempe for medical and dental education at any accredited medical or dental school of the student's choice. These funds are available only to graduates unable to otherwise finance such education. Students applying for these grants must be regularly enrolled in a medical or dental school. Recipients will be expected to return to the State of Arizona and practice their pro-

fessions for a period of not less than two years or to repay such funds to the College.

*Mu Rho Alpha Scholarship.* The Mu Rho Alpha Scholarship shall be given to an outstanding music major currently enrolled in the College. Selections shall be made by a committee of Mu Rho Alpha members appointed by the president of Mu Rho Alpha. The scholarship provides for the payment of fees for private lessons for two semesters (\$80.00). The scholarship shall be awarded in May at the Honors Day Assembly. Application must be made by February 1.

*Music Camp Scholarships.* These scholarships are awarded annually by the Arizona State College at Tempe to gifted members of the Music Camp—one each in voice, piano, and instrument. These scholarships provide for the remission of private music lesson fees in an amount not to exceed \$40.00, per semester. Applicants are selected on the basis of auditions given at the College.

*National Guild of Piano Teachers Scholarship.* The National Guild of Piano Teachers offers a scholarship of \$100.00 for 1955-56 to the most deserving, needy piano student in the Music Department. Selection will be based upon outstanding ability in the performing field and demonstrated need. The piano faculty of the College will recommend eligible applicants to the Scholarship Committee for final selection.

*Phelps Dodge Scholarships.* Four scholarships of \$1,000.00 each are given annually by the Phelps Dodge Corporation. One goes to an Arizona high school graduate, and one each to a sophomore, junior and senior now in college. They are awarded on the following basis: (a) high scholarship, (b) high ability and promise, (c) personality, (d) character, (e) leadership.

*Phoenix Real Estate Board Scholarship.* The Phoenix Real Estate Board offers a scholarship of \$500.00 annually to a junior or a senior student majoring in Business Administration and interested in the field of real estate. In making the award, scholarship, leadership, character, and financial need will be given primary consideration.

*Phoenix Symphony Orchestra Guild Scholarships.* Several scholarships are provided annually by the Phoenix Symphony Orchestra Guild and the Arizona State College at Tempe, to full-time students registered under a four year music curriculum. These scholarships provide for a cash stipend of \$200.00, payable in \$50.00 amounts at the beginning and middle of each semester, and carry the remission of all regular registration and class fees, and the out of state tuition fee. Aptitude and proficiency in music as shown by performance on a musical instrument, promise of further growth and development in musicianship, and good character will receive primary consideration in making the awards. Recipients shall audition for membership in the Phoenix Symphony Orchestra.

*Phoenix Symphony Orchestra Guild Graduate Scholarships.* One or more scholarships of \$500.00 are provided annually by the Phoenix Symphony Orchestra Guild to graduate assistants in music at the Arizona State College at Tempe. The scholarship is payable in \$125.00 amounts at the beginning and middle of each semester. Recipients shall audition for membership in the Phoenix Symphony Orchestra.

*Mary H. Redewill Organ Scholarship.* Mary H. Redewill awards annually a scholarship to a student in organ. This scholarship provides for the payment of fees for two half-hour lessons each week for two semesters. Any student who has had previous instruction in organ may audition for the scholarship. In making the award, scholarship, character, breadth of musical background—particularly in organ—performing ability, and interest will be given primary consideration.

*Rhodes Scholarships.* These are competitive scholarships. Three candidates are chosen from the State of Arizona to compete with candidates from five other states. From these 18 candidates, six Rhodes scholars are chosen for Oxford University. The stipend is £400 per year and may be held for 3 years. Scholars must be citizens of the United States, unmarried and between 19 and 25 years of age.

*Salt River Valley Branch of the Association For Childhood Education International Scholarship.* The Salt River Valley Branch of the Association for Childhood Education International offers a scholarship of \$50.00 annually to a second semester junior or senior student enrolled under the Kindergarten-Primary or Elementary Curriculum. In making this award, scholarship, character, leadership, and financial need will be given primary consideration.

*Standard Oil Company of California Scholarship.* This scholarship of \$400.00 will be awarded annually on a competitive basis to an Arizona High School graduate. The selection will be based upon high scholarship, demonstrated financial need, character, and promise. Applicants for the Standard Oil Company Scholarship will be tested and interviewed at the College on Senior Day, held annually in the early spring.

*Sunshine-Jack Tracy Agriculture Scholarship.* This scholarship of \$750.00 is awarded annually to a worthy student enrolled under the four year agriculture curriculum. In making the award financial need will be given primary consideration. Other factors will include: scholarship, ability and character.

*Tempe Kiwanis Club Scholarship.* A scholarship of \$100.00 is awarded annually by the Tempe Kiwanis Club to a handicapped Arizona student. Preference will be given to a local student and need will be given primary consideration. Other qualifications include: ability, scholarship, and character.

*L. N. Treadaway and Associates Accounting Fellowship.* L. N. Treadaway and Associates, Certified Public Accountants, offer a fellowship of \$400.00 annually to a junior or senior student majoring in Business

Administration with an area of concentration in accounting. Applicants must be residents of Arizona. In making the award, scholarship, leadership, character, interest in the field of accounting, and those personality traits which we believe desirable in the field of accounting will be given primary consideration.

*Vesta Club Scholarship.* The Vesta Club gives each year a scholarship of \$800.00 to a worthy Spanish speaking high school graduate of Arizona. This scholarship will be used to help defray the student's school expenses for four years, and will be given at the rate of \$100.00 each regular school semester. The recipient will be given the choice of attending the Arizona State Colleges at Tempe or Flagstaff, or the University of Arizona. This award is made on the basis of character, need, scholarship, and promise of future.

*Harold F. Vinson Delta Sigma Pi Scholarship.* A scholarship in the amount of \$300.00 is made available annually by Harold F. Vinson, General Agent of the Northwestern Mutual Life Insurance Company, to a junior or senior student registered under the curriculum in Business Administration. Applicants must be residents of Arizona. In making the award, scholarship, leadership, character, and interest in the field of life insurance will be given primary consideration.

*Write for Information.* Apply or write to the Chairman of the Scholarship Committee for information concerning any of these scholarships.

## Loan Funds and Foundations

The College is anxious to be of service in assisting worthy students. A number of organizations have loan funds for this purpose.

*John W. Allen Loan Fund.* This fund of \$1,750.00 was established by John W. Allen for the aid of worthy athletes. It is to be a revolving fund out of which loans are made at no interest.

*Alumni Loan Fund.* Loans are made to deserving students of senior standing for necessary college expenses.

*Arizona Federation of Women's Clubs Loan Fund.* Juniors and seniors may borrow \$100.00 or more from this fund at a low rate of interest.

*J. Reuben Clark, Jr. Student Aid Fund.* Loans are made to deserving students in small amounts for short terms for necessary college expenses.

*D. A. R. Loan Fund.* The Charles Trumbull Hayden chapter of the Daughters of the American Revolution has a fund available for the use of responsible and worthy students during their senior year.

*DeMund Foundation.* Grants for tuition or sustenance are made deserving and needy Arizona students, based upon character, intelligence, effort, aptitude and need. Recipients must be at least partially self supporting.

*Education Foundation of the I.O.O.F. Loan Fund.* Loans from the Educational Foundation of the Independent Order of Odd Fellows are made to worthy young people attending accredited schools after graduation from accredited high schools. Loans are made to four year college students only after an acceptable college record has been established. Detailed information may be had by writing to Educational Foundation, I.O.O.F., 412 Volkmann Bldg., Kankakee, Illinois.

*Dixon Fagerberg Revolving Fund.* Loans are made to junior and senior women at 4% interest to be repaid within two years after graduation.

*W. K. Kellogg Foundation Loan Fund.* Loans are made in unlimited amounts to students in medical technology, either in their clinical or the pre clinical years of their courses. The interest rate is not to exceed 2½%.

*Freeda Marks Scholarship Loan Fund.* A loan of \$250.00 will be given each year to a worthy Jewish student of junior, senior, or graduate standing who is a resident of Maricopa County to enable the student to continue his education. Applications for loans should be made to the Freeda Marks Scholarship Loan Fund Committee through the Division of Student Affairs of the College.

*Marshall Charitable Foundation Student Aid Fund.* A grant of \$8,000.00 has been given to the Arizona State College at Tempe by the Marshall Foundation, Tucson, Arizona, the income of which is to be available for the aid of worthy and deserving students.

*Methodist Loan Fund.* Methodist students attending Arizona State College may borrow limited sums of money in their sophomore, junior, or senior year.

*Phoenix-Panhellenic Loan Fund.* Available to undergraduate women approved by the Panhellenic Scholarship Committee. The loan may not exceed \$150.00. No interest is charged.

*P.E.O. Educational Fund.* P.E.O. Educational Fund, P.E.O. Executive Office, Mount Pleasant, Iowa. Loans available to young women. Maximum loans \$1,000.00 for graduate work or for two or more years of undergraduate study. Loans available to freshmen at beginning of second semester. Interest is 3% payable annually from date of each note. Applicants must be recommended by a local chapter of the P.E.O. Sisterhood.

*President's Student Aid Fund.* Loans are made to deserving students in small amounts for short terms for necessary college expenses.

*Rotary Club Student Loan Fund.* Open to junior and senior students who are residents of Maricopa County. Rate of interest, 4%. Loan must be approved by a Rotary Club Committee.

*Tempe Rotary Loan Fund.* Loans are made to deserving students in small amounts for short terms for necessary college expenses.

*Applications.* Students who are in need of financial aid may make application to the Division of Student Affairs for available loan funds.

## Honors and Awards

*Air Force Association Medal.* A decoration is awarded by the Air Force Association to the outstanding junior cadet of the advanced Air Force ROTC.

*Alpha Pi Epsilon Secretarial Award.* An award given in the Business Administration Department to the outstanding student of the year in secretarial courses.

*Alpha Psi Omega Awards.* Two books are awarded each year by the national dramatics fraternity, Alpha Psi Omega—one for outstanding work in drama production, the other for distinction in action.

*Alumni Awards.* At least two \$50.00 awards are given annually to seniors outstanding in ability and service to the College.

*American Association of University Women Awards, Arizona State Division.* A national and a state membership in A.A.U.W. is awarded to two outstanding graduating senior women.

*American Association of University Women Award, Tempe Branch.* An award to a freshman girl for outstanding scholarship during her first year in college.

*American Institute of Architects Awards.* Two awards totaling \$25 00 are made to the students achieving the highest standard in first and second year architectural design.

*American Legion Medal.* A medal is awarded by William A. Bloys Post Number 2, American Legion, to the two cadets of the second year basic course, Army and Air Force ROTC, displaying the highest academic proficiency and capacity for military leadership in their respective departments.

*Architectural Design Awards.* Awards totaling \$100.00 are offered annually by *Arizona Builder and Contractor* and *Arizona Homes* magazines for best commercial and residential designs.

*Arizona National Guard Award.* A trophy is awarded to the outstanding ROTC cadet who is a member of the Arizona National Guard.

*Arizona Society of Certified Public Accountants' Award.* Made to a senior graduating with the B.S. degree with an area of concentration in accounting. Based on scholarship and contributions to business.

*Art Purchase Prizes and Awards.* Cash purchase prizes totaling \$400.00 are awarded at the annual Art Exhibition for students and alumni of the Arizona State College Art Department in connection with the campus Art Festival. Prizes are offered in four classifications: oil painting, watercolor, ceramics and sculpture, and graphic and commercial arts. Both regular session and summer session students and alumni are eligible to exhibit. Fifteen faculty citations are awarded to worthy art works in addition to those winning cash prizes. Citation winners receive autographed copies of the illustrated cata-

log of the Arizona State College Collection of American Art. All awards and citations are officially listed on the records of individuals registered with the Arizona State College Placement Bureau.

*Associated Men Students' Award.* An award presented by the A.M.S. Council to a senior member of the Associated Men Students in recognition of outstanding service to the College.

*Associated Women Students' Recognition Award.* The A.W.S. Recognition Award is presented each year to a graduating senior woman who is considered the outstanding woman in her class. She is judged on the basis of leadership, personality, scholarship, and service to the College. Recommendations are received from administrators, faculty, and student organizations.

*Association for Childhood Education Award.* A silver trophy to a kindergarten-primary junior or senior girl outstanding in scholarship and service.

*Association of the United States Army Medal.* A medal is presented to the member of the second year advanced course, Army ROTC exhibiting the greatest technical proficiency and highest capacity for leadership.

*Bandsman's Award.* A decoration is presented by the Division of Special Services, Arizona State College, to the outstanding member of the combined Army Air Force ROTC Band.

*Beta Chi Award.* An award is given to the graduating senior chosen for her good scholarship, her contribution to the Home Economics Club, to the Home Economics Department, and to the College, and her promise of future development.

*Chemical Rubber Publishing Company Award.* The Chemical Rubber Publishing Company annually awards a copy of their Handbook of Chemistry and Physics to the Freshman student in General Chemistry with the most outstanding performance during the first semester.

*Chi Omega Social Science Award.* The Chi Omega Social Science Award of twenty-five dollars is given to the outstanding woman student in the field of Social Studies. It is judged on scholarship and general ability in that field. The recipient is chosen by the head of the Social Studies Department and a committee of professors of Social Studies.

*Art Clark Award.* For distinguished art work in connection with the student publications (Sahuaro or the State Press).

*Commandants' Award.* A decoration is presented by the Departments of Military and Air Science and Tactics to the member of the Army or Air Force Rifle Team compiling the highest average score during competitive firing.

*Consolidated Vultee Aircraft Corporation Award.* A model aircraft is awarded by the Consolidated Vultee Aircraft Corporation to the outstanding junior advanced Air Force ROTC cadet electing to pursue flight training upon graduation.



*Thomas J. Croaff Award.* An award of \$50.00 is given annually by Mrs. Carolyn B. Croaff in memory of her husband, Judge Thomas J. Croaff, to an undergraduate student for a research paper on juvenile delinquency or community problems.

*Dean of the College of Liberal Arts Award.* A decoration is presented by the Dean of the College of Liberal Arts to the two cadet commanders, Army and Air Force, winning the annual platoon-flight drill competition within their respective departments.

*Delta Sigma Pi Scholarship Key.* To encourage high scholarship, Delta Sigma Pi presents annually the Delta Sigma Pi Scholarship Key to the graduating senior who ranks highest in scholarship for the entire course in Business Administration.

*Freshman Art Award.* An award given to a freshman majoring in art. Selection determined on basis of scholarship, as well as art accomplishments and promise as an artist.

*Future Teachers of America Award.* An award given by the Arizona State College Chapter of Future Teachers of America to the graduating senior who shows most promise of leadership in the teaching profession.

*Bob Gehres Award.* An award given each year by Blue Key to the most valuable baseball player in honor of Bob Gehres, an outstanding A.S.C. pitcher, who died in 1950.

*Governor's Medal.* A decoration is presented by the Governor of the State of Arizona to the respective cadet commanders of the Army and Air Force Corps of Cadets.

*Graduating Honors.* The honor, "With Distinction," is given to those whose index of scholarship, for all work taken at the College, is from 3.00 to 3.49 points. "With High Distinction" is given those whose index is from 3.50 to 4.00.

*Harvard Club Award.* A book or set of books given each year by the Arizona Harvard Club for excellence in some field of study designated by the donor.

*Hayden Hall Award.* An award to a resident of Hayden Hall for outstanding achievement in service to the hall, scholarship, and service to the College.

*Hillel Honor Awards.* The Hillel Honor Awards are given to students of the Jewish faith, who by their devotion to service, and consecration to duty have made Hillel a worthwhile student organization.

*Home Economics Award.* An award is given to the sophomore Home Economics major having the highest cumulative scholastic record during her first two years of college.

*Interfraternity Council Scholarship Award.* Each semester the Interfraternity Council awards a scholarship trophy to the fraternity with the highest scholarship. In addition, a "traveling trophy"

moves to the highest fraternity, and at the end of ten semesters becomes the property of that fraternity earning it the greatest number of times.

*The Fred M. Jahn Award.* An award of fifteen dollars presented annually to a student doing outstanding work in journalism.

*Kappa Delta Pi Award.* An award of twenty-five dollars by Kappa Delta Pi is made to the student having the highest cumulative index for all courses taken in the freshman and sophomore years at Tempe. The minimum number of hours is sixty.

*Kappa Delta Pi Pin.* This award goes to a graduating senior who attains the highest cumulative index for the junior and senior years under the conditions prescribed for Kappa Delta Pi award.

*Kappa Kappa Psi Award.* Beta Omicron Chapter of Kappa Kappa Psi presents an award to the most outstanding senior of the College Band.

*Robert R. Krause Award.* An award of twenty-five dollars is given to the student ranking highest in a comprehensive examination in the Biological and Chemical Sciences. The examination is held annually on the last Saturday of April.

*La Liga Panamericana Award.* An award given to a sophomore for outstanding work in Spanish.

*McGrew Printery Journalism Award.* An award of ten dollars to a student doing outstanding work in journalism.

*Mask and Sandal Award.* A book is awarded each year by Mask and Sandal for all around service to the Drama Workshop.

*Moeur Award.* This award of \$50.00 is given by Sidney B. and Annie Laurie Lassator Moeur, both graduates of the class of 1914, to the graduate of any four-year curriculum who attains the highest standing in academic work during the four years immediately preceding graduation.

*Ralph H. Morris Instrumental Music Award.* An award of \$100.00 is given by Mary Scott Morris, in memory of her father Ralph H. Morris, to a junior student of exceptional talent in instrumental music.

*Mu Rho Alpha Award.* An award given by the honorary fraternity, Mu Rho Alpha, to a senior music major outstanding in musicianship and artistic performance.

*Panhellenic Scholarship Cup.* A Panhellenic Scholarship Cup is awarded each year by the Phoenix Panhellenic Association to that sorority which has the highest scholastic average. Any sorority receiving the award for three consecutive years retains the cup permanently.

*Pasteur Scientific Award.* An award of the Handbook in Chemistry is given to a freshman outstanding for achievement in general scholarship and in freshman chemistry.

*P.E.O. Award.* Chapter X, Tempe, of P.E.O. awards \$25.00 to a woman student of high ideals and outstanding service. Selection is based on integrity, intelligence, and aptitude.

*Pershing Rifle Meritorious Award.* An award presented by the Cadet Honorary Colonel to the Pershing Rifleman who has consistently contributed most to the furtherance of Pershing Rifle Co. D, 10th Reg. during the academic year.

*Phi Eta Sigma Award.* This award is given to the male student who attains the highest cumulative index for all courses taken in the freshman and sophomore years at Tempe.

*Pi Kappa Delta Awards.* Awards are made annually by this national honorary forensic fraternity to students who achieve forensic proficiency.

*Pi Omega Pi Award.* Alpha Iota Chapter of Pi Omega Pi presents an award to the graduating senior selected as the most outstanding prospective commercial teacher.

*Pleiades Freshman Award* is presented at the close of each year to the most outstanding woman in the freshman class.

*The Pleiades Plaque.* Awarded by Pleiades to the women's hall having the highest collective undergraduate scholarship index. The group winning it three times in succession retains the plaque.

*President's Award.* A decoration is presented by the President of the College to the two outstanding cadets of the second year advanced course of their respective Cadet Corps.

*Psi Chi Award.* An award is annually presented to a member of Psi Chi with outstanding scholastic achievement and service.

*Charles William Rawlins Memorial Award.* Tau Kappa Epsilon Fraternity presents a trophy to the outstanding intramural man within fraternities. This is in tribute to the late Bill Rawlins, a fine fraternity man and a fine athlete.

*Religious Activities Awards.* Two awards of \$5.00 each are presented each year by the Student Religious Council to the man student and the woman student giving outstanding service in religious activities for the year. These awards are determined on the basis of (1) service to local college group and general church program, (2) service to total campus religious program, (3) personal religious living, and (4) other evidences of leadership.

*Republic Aviation Award.* A model F 84 Thunderjet is awarded by the Republic Aviation Corporation to the outstanding senior advanced Air Force ROTC cadet electing to pursue flight training upon graduation.

*Reserve Officers' Association Scholarship and Medal.* A scholarship of twenty-five dollars and a medal are presented by the Phoenix

Chapter, Reserve Officers' Association of Arizona to the outstanding member of the first-year advanced course, Army R.O.T.C.

*Reserve Officers' Training Corps Medal.* A decoration is presented by the Dean of Students to the two cadets making the greatest personal contribution to the activities of their respective Cadet Corps.

*Will H. Robinson Award.* An award of twenty-five dollars, in honor of Will H. Robinson, is given annually to a freshman. The award is based on high scholarship for the first semester considering the number of hours the student gives to self-support.

*Rosenzweig Trophy.* This trophy is given annually by I. Rosenzweig & Sons to an outstanding letterman having the highest total point rating on athletic ability, general aptitude index, and scholarship index.

*Tau Beta Sigma Award.* Sigma Chapter of Tau Beta Sigma presents an award to the most outstanding freshman of the College Band.

*Tempe Daily News Journalism Award.* An award of ten dollars to a student doing outstanding work in journalism.

*Theta Chi Epsilon Award.* This award is given annually to a senior student for excellence in scholarship and art achievement.

*Veterans of Foreign Wars Medal.* A medal is presented by Bob Finch Post Number 3632 (Veterans of Foreign Wars) to the two cadets of the first year basic course, Army and Air Force ROTC, exhibiting the highest academic proficiency and potentiality for military leadership in their respective departments.

*Vice President's Award.* A decoration is presented by the Vice President of the College to the two cadet commanders, Army and Air Force, winning the annual company squadron drill competition within their respective departments.

*West Hall Award.* An award to a resident of West Hall for outstanding achievement in scholarship, and service to the hall and to the College for four years.

*Women's Physical Education Award.* An award given by the women's division of the Physical Education Department to a senior major for achievement in physical education.

# College Regulations

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## Conduct of Students

*Standards.* It is the policy of the College to give students the largest degree of liberty consistent with good work and orderly conduct. Students of a state supported college have an important responsibility to the citizens who help pay for their education, and to each other; and their conduct, both on and off the campus, should reflect this responsibility. Specifically, each student is expected:

1. To conduct himself or herself in such a manner as to uphold, not detract from, the good name of the College and fellow students by conforming to the law and accepting the moral and social practices of the community, state, and nation.
2. To abide by college rules and regulations.
3. To respect property, public and private, and to meet his or her financial obligations in relations with fellow students, others and the College.
4. To show active concern for the physical safety of self and others.
5. To demonstrate consideration and respect for the rights and personal privileges of other human beings regardless of such factors as race, nationality, religion or color.

Any proposed enterprises by students or organizations bearing the name of the College, or representing or purporting to represent the College, must receive the official sanction of the College before announcements are made of such enterprises.

The possession, serving or use of intoxicants of any kind whatsoever is prohibited on the campus, at all social functions held under the auspices of college sponsored organizations or groups, wherever held, or at any other event in which college students participate where such possession, serving or use may reflect on the good name and reputation of the College.

These standards apply to all students as long as they are enrolled in the College, both on and off campus, and the College assumes that the act of registering as a student implies full acceptance of these standards of conduct. Failure to conform to these standards may be considered sufficient cause for dismissal from the College. The authority of the College is exercised over all students individually and over all student groups or organizations bearing the name of the College, or representing or purporting to represent the College, in any student enterprises to the extent necessary to safeguard the good name and well being of the College.

Among the circumstances which indicate possible dismissal from the College, if the student is found guilty, are whenever a student:

1. Deliberately endangers or seriously threatens the life or physical safety of others or self.
2. Leads or participates actively in destructive mob action.
3. Has serious or repeated difficulties with law enforcement authorities.
4. Commits sexual immorality.
5. Refuses to cooperate in efforts made to help him or her adjust to college responsibilities, or persists in conduct which, through perhaps less flagrant violations than items 1, through 4, eventually would serve to discredit the College and/or fellow students.

## Attendance

The college has no uniform system of cuts. The loss incurred by a student for absences depends upon the nature and the amount of work missed, of which the instructor is the sole judge. The instructor will recommend that a student be dropped from class whenever, in his opinion, the student's continuation in the course seems unprofitable to the student or detrimental to the class, and will send a memorandum to the Registrar and Director of Admissions who will initiate the "Authorization for Dropping Course" form. All *veteran students* are to be reported to the Office of the Registrar and Director of Admissions when absent for three or more consecutive class periods or when the instructor considers the total number of absences excessive, whether consecutive or not.

No excuses for absence from class are granted either by the administration or by instructors. This applies to any absence occasioned by a student leaving early for, or returning late from, a scheduled vacation period as announced in the College calendar. The student alone assumes full responsibility for all absences. Instructors will permit students to make up tests and other work missed when the absence was due to causes beyond the control of the student or on account of activities assigned by the College. The instructor is the judge of the validity of reasons given by the students for absence. Students absent from classes because of a confining illness in the infirmary, may request a statement from the Director of the Student Health Service which will give the dates the student was confined as a patient. Students absent from classes because of a confining illness at home, may request a similar statement from the Dean of Students or Associate Dean of Students.

## Fees, Deposits, and Expenses

*Changes in Fees.* The Board of Regents reserves the right to change fees and charges from time to time without notice when necessary.

*Extending Credit.* The College cannot extend credit, therefore, students must have on hand when registering sufficient funds to pay

for registration, incidental fees, books, and board and room for one month.

*Definitions.* *Regular fees* are those paid by all students. *Special fees* are those paid by certain students only, and under the conditions indicated. *Deposits* are made to cover certain contingencies. All or part of the deposit may be returned depending upon the charges incurred by the student.

## Regular Fees

The following are the regular fees paid each semester both by regular students, and by auditors registered for record purposes:

Registration Fee .....	\$15.00
Paid by all excepting extension and correspondence students.	
Student Activity Fee .....	\$10.00
Excepting extension and correspondence students, this fee is paid by all who carry more than 5 semester hours. Only those students paying this fee receive activity tickets.	
College Series Fee .....	\$1.00
Paid by all excepting extension and correspondence students and those students carrying 8 semester hours or less.	
Health Fee .....	\$4.00
Paid by all excepting extension and correspondence students and those carrying 5 semester hours or less.	
Gymnasium Fee .....	\$2.00
Paid by all freshman and sophomore students carrying more than five semester hours.	
Student Union Fee .....	\$5.00
Excepting extension and correspondence students, this fee is paid by all who carry more than 5 semester hours.	
Library Fee .....	\$2.00
Paid by all excepting correspondence and extension students.	

## Special Fees

Special fees are paid by certain students under the conditions given below:

### Non-resident Tuition Fee (per semester).....\$150.00

All students classified as non-residents, who register for 12 or more semester hours, pay the non-resident tuition fee, except graduate students who have been awarded graduate fellowships or teaching assistantships.

Students classified as non-residents who register for less than 12 semester hours are required to pay a non-resident tuition fee of \$12.50 per semester hour.

A student to be considered a legal resident of Arizona for the purpose of registering at the Arizona State College at Tempe must present evidence as follows:

(1) If under 21 years of age—that the supporting parent (or guardian having legal custody) has been a legal resident of the state of Arizona for at least 1 year next preceding registration.

In the event that a legal resident of Arizona is appointed as the guardian of a non-resident minor, such minor does not become a resident until the expiration of 1 year from the time of appointment and then only upon a proper showing that such appointment was not made to avoid the non-resident fee.

(2) If over 21 years of age—that legal<sup>1</sup> residence in the state has been established for at least 1 year next preceding registration, and that he is eligible to become a registered voter. (Sec. 3 of Art. 7, Constitution of Arizona, provides, "For the purpose of voting, no person shall be deemed to have gained or lost a residence . . . while a student at any institution of learning . . ." Sec. 8, Art. 7 provides, "No soldier, sailor or marine . . . shall be deemed a resident of this State in consequence of his being stationed at any military or naval place within this State.")

(3) If an alien who has taken out first naturalization papers—that residence has been maintained in the state for at least 1 year previous to registration, and that he has filed with the United States Immigration and Naturalization Service an application for such citizenship or a declaration of intention to make such application when eligible.

<sup>1</sup>The attention of students who have not attained the age of 22 years and whose parents do not live in the state of Arizona is directed to the fact that presence in the state of Arizona for a period of more than 1 year immediately preceding the opening day of the semester during which it is proposed to attend the Arizona State College at Tempe does not, of itself, entitle the student to classification as a resident.

The student must have the question of his legal residence passed upon previous to registration and payment of fees. The responsibility of registration under proper residence is placed upon the student. If there is any possible question as to the legal residence, the student is responsible for obtaining a blank from the Registrar's Office; filling it out completely; taking it to a notary public in the Business Office, and making a sworn statement concerning the facts given, and returning the blank to the Registrar's Office. Any student found to have made a false or misleading statement as to his residence shall be subject to dismissal from the College.

In all cases where the records indicate that the student's home is outside of Arizona, the non-resident fee shall be assessed. Claims for refund may, however, be filed at any time within 30 days.

Non-resident graduate students also pay the tuition fee.

**Private Lessons — Music Majors.....\$40.00**

In addition to the usual college registration fees, music majors will pay a flat rate of \$40.00, per semester, which covers all private instruction required in the major teaching fields and in areas of concentration. All non-majors will pay the fees for private instruction listed below.

For two half-hour lessons per week in piano, voice, violin, violoncello, band and orchestral instruments, the fee is \$40.00 per semester. For one half-hour lesson per week the fee is \$27.00 per semester.

**Class Lessons—Music.....\$9.00 or \$12.50**

With seven in a piano class, the fee for two one-hour lessons a week is \$12.50 per semester. For two class lessons of one hour each in voice, the fee is \$9.00 per semester. (Class limit is ten.)

**Rentals—Musical Instruments**

The rental for school-owned solo instruments is \$2.50 a semester. Students using college-owned instruments are held financially responsible for damage done them from the time received until returned and inspected at the close of the semester.

Rental on the Hammond organ is \$5.00 per semester, for one hour daily practice. Rental on practice pianos is \$5.00 per semester, for one hour daily practice; \$7.50 per semester, for two hours daily practice.

**Registration and Other Fees**

Students carrying six or more semester hours of work pay the registration and all other regular fees. Those carrying five hours or less pay only the registration and library fees in addition to the special fees.

**Refunds**

In case an applied music course is dropped because of actual illness or other emergency beyond the control of the student, not more than half of the semester fee paid may be refunded.

**Apartment Reservation Deposit .....\$10.00**

The student's or prospective student's name will be placed upon the waiting list for student apartments upon receipt of a \$10.00 deposit and proper application.

**Transcript Fee**

There is no charge for the first transcript. For each additional transcript there is a fee of \$1.00. Requests for transcripts should be in the hands of the Registrar and Director of Admissions one week in advance of the time needed.

**Senior Check-Out**

Each senior is entitled to one official check-out, at the time application for graduation is filed, without charge, under the curriculum designated in his application for graduation. A fee of \$1.00 will be charged for any additional check-outs.

**Absentia Fee .....\$7.50**

Students who are granted permission to receive the bachelor's or master's degree in absentia pay this fee.

**Auditor's Fees**

Those taking courses for record purposes register and pay the regular fees.

**Laboratory Fees .....See course descriptions**

With few exceptions such fees are not returnable.

**Master's Degree Qualifying Examination Fee.....\$3.50**

**Master's Thesis Binding Fee .....\$5.00**

**Doctoral Dissertation Binding Fee .....\$10.00**

**Doctoral Dissertation Fee.....\$50.00**

This fee is paid by doctoral candidates who have been admitted to candidacy for the Doctor of Education degree.

**Doctoral Dissertation Micro-Film Fee .....\$10.00**

**Doctoral Qualifying Examination Fee.....\$7.50**



Special Examination Fee .....	\$1.00
<small>When, because of absence, or for any reason, it becomes necessary for a student to request a special examination in any course, a fee of \$1.00 may be required for this special privilege.</small>	
Comprehensive Examination Fee.....	\$5.00 per semester hour
<small>Paid by all students seeking to establish credit by examination.</small>	
Test Fees—Vocational .....	\$0.50
<small>A nominal fee is charged to pay the cost of test materials only.</small>	
Application for Graduation Fee .....	\$10.00
<small>See description under another section of the bulletin headed Graduation Requirements and Degrees.</small>	
Cap and Gown Rental Fee .....	\$2.75 to \$7.50
<small>Bachelor's cap and gown for baccalaureate and commencement exercises, \$2.75. Master's cap, gown, and hood, \$6.90. Doctor's cap, gown, and hood, \$7.50. These are approximate amounts and subject to change.</small>	
Fee for Dropping Course .....	\$0.50
<small>Charged beginning Wednesday of the second week.</small>	
<b>Late Fees</b>	
Late Registration .....	\$5.00
<small>All students registering on the date specified for the beginning of classes, or thereafter, pay this fee.</small>	
Late Aptitude Tests .....	\$2.00
<small>Paid by students taking the aptitude tests on the date specified for the beginning of classes or thereafter.</small>	
Late Physical Examination .....	\$1.00 to \$3.00
<small>Charged beginning at noon of the last day scheduled for registration.</small>	
Late X-ray .....	Actual Cost
<small>Charged all students who fail to take the X-ray on the date specified by the College.</small>	

## Deposits

Deposits are required of those students wishing certain privileges or services. The deposits are returnable less any charges which may have been incurred during the term of the service being rendered.

### Science Breakage Deposits

In the following courses students are required to purchase a \$2.50 deposit card. When their breakage exceeds this amount, they will be required to purchase additional deposit cards.  
Chem. 110, 111, 112, 114, 131, 141, 142, 150, 180, 211, 212, 215, 231, 251, 252, 271g, 273g, 281g.

Women's Gymnasium Deposit (per semester).....\$5.00

This deposit will be refunded if the gymnasium suit, towels, leotard, and lock are returned in good condition.

Military Uniform Deposit (returnable).....\$25.00

## General Expenses

### Board and Room

The college dining room will be located in the Memorial Union Building, with the opening of the spring semester, 1956. Until the time the Union Building is completed, the dining room will remain in its present location, centrally located for the convenience of all students.

The dining room and all residence halls operate on a self-sustaining basis. The college charges a sufficient amount to cover operating costs. The right is reserved to increase rates to meet increased costs, if necessary.

Meal tickets are available covering either a 7 day week or 5 day week. The average cost per student for a 7 day meal ticket and room rental for a month is \$65 or \$292 per semester. A la carte meal service is available at a reasonable cost. All meal tickets and room rentals are payable in advance.

Rooms are available in college residence halls. Rooms are available for students not eating at the college dining room at a cost of approximately \$30

per month, or \$135 per semester. Sheets and pillow cases are provided, as well as weekly laundry service. Reservations for rooms in college residence halls are obtained by application to the Housing Office. A deposit of \$5.00 is required with the application and is refunded on withdrawal from college, less any damage or other charges assessed. No refunds will be made of any part of the current month's board and room charge unless the move is made at the request of the college. No refunds will be made on meal tickets unless the absence is 7 days or more.

Meals for Guests.....regular rates per single meal

Textbooks .....\$20.00 up

The outlay for books and stationery will probably vary from \$20.00 to \$30.00 per semester. All books can be obtained at the College Bookstore.

*General Summary.* The following summary includes the fees and minimum expenses incurred by a student, exclusive of board and room, for one college year:

Registration Fee .....	\$ 30.00
Activities, Health, etc. ....	46.00
Tuition (free to Arizona Students) .....	0.00
Books and Stationery (approximately) .....	40.00
Laboratory Fees (approximately) .....	20.00
	<hr/>
	\$136.00

## Payment and Refund of Fees

### Payment of Fees

The payment of fees cannot be deferred. By regulation of the Board of Regents based on a ruling of the Attorney General, registration and other college fees are payable on the day of registration.

### Method of Payment

Checks, drafts, and post office or express money orders should be made payable to the Arizona State College.

## Refunds

### Activities and Other Fees Including Laboratory

Students withdrawing not later than Saturday of the first week receive a refund of eighty per cent of all fees paid; sixty per cent at the close of the second week; forty per cent at the close of the third week; twenty per cent at the close of the fourth week; thereafter, no refund is made.

### Forfeiture of Refunds

All refunds and deposits due students for any reason whatsoever will be forfeited unless called for on or before June 30 of the College year in which they are due. Should June 30 fall on Sunday or on a day when the Business Office is closed, the refund will be made on the next business day.

# Marking System

*Undergraduate Scholarship Ratings.* Scholarship grades on the student's report card and on his permanent record card are indicated by the letters and explanations given below:

A, Highest.	Cr, Credit, without definition.
B, Above average.	E, Failure.
C, Average.	Wp., Withdrew, work passing.
D, Lowest passing.	We., Withdrew, work failing.
	Audit, Audit

Inc., Incomplete, given and removed as specified below.

*Incomplete.* A mark of Inc. is given only when a course is unfinished because of illness or other conditions beyond the control of the student. An incomplete may not be given to any student who has taken the final examination for the particular course. Negligence or indifference are never accepted as reasons for giving an Inc. Incompletes must

be removed in a manner prescribed by the instructor, not later than the middle of the following semester. If the Inc. is not removed, the instructor will report a mark of Wp. The Department Head will report the mark of Wp if the instructor in his department who reported the incomplete is no longer in the employ of the College. Incompletes received in summer session courses must be removed in a manner prescribed by the instructor not later than December 31 next following.

*Marks of E.* Students receiving marks of E must repeat the course in the regular class if they desire credit. Both the E and the new mark remain as a part of the student's permanent record.

*Mark of Wp.* The mark of Wp is given whenever a student officially withdraws from a course and the instructor rates the student's work as passing. The instructor will enter the date of official withdrawal next to the mark of Wp on the end of semester grade report.

*Mark of We.* The mark of We is given whenever a student officially withdraws from a course and the instructor rates the student's work as failing. The instructor will enter the date of official withdrawal next to the mark of We on the end of the semester grade report.

*Repetition of Course.* Students may repeat a course in which a low grade has been received. In such cases students must secure an Approval Form from the Registrar and Director of Admissions and have it signed by the instructor and curriculum adviser. These forms must be submitted with other registration materials when completing registration.

When a course is repeated, the original grade remains on the student's record and is included in his cumulative scholarship index. Semester hours of credit are counted only once for the course but the honor points are included on the scholarship index both times the course is taken.

*Dropping Course at Instructor's Request.* A faculty member will drop a student from his class with a mark of Wp or We whenever, because of absence or other reason, he thinks the work of the student is such as to justify it.

*Change of Grade.* A grade once reported to the Registrar's Office may be changed only upon the authorization of the faculty member issuing the original grade and the approval of the Dean of the College concerned.

A change of grade is made by filing an Authorization of Change of Grade Form with the Registrar's Office. The reason for the change of grade shall be entered on the form and signed by the faculty member and by the Dean of the appropriate college.

*Grade Points.* For the purpose of computing the scholarship index, grade points are assigned to each of the grades as follows: A, 4 points for each semester hour; B, 3 points; C, 2 points; D, 1 point; E, 0 point; and We, 0 point.

*Scholarship Index.* The scholarship index is obtained by dividing the total number of grade points earned by the number of semester hours in the student's course load. Courses in which marks of Wp, Inc., Cr., and Audit are given are not included in determining the number of semester hours in the course load, but courses in which the mark, We, is given are included.

*Disqualification.* All students who, at the close of any semester or term, fail to receive passing marks in fifty per cent of the semester hours for which they are officially registered at the close of registration or who fail to receive a semester scholarship index of 1.00 are disqualified. Students disqualified at the close of the first semester are not eligible for the second semester. Students disqualified at the close of the second semester are not eligible to attend summer session or the first semester of the following college year.

*Reinstatement.* A student who has been disqualified may file an application for reinstatement with the Dean of the College in which he was registered. After a review of his case by the Dean of the College, and upon recommendation by the Standards Committee of the college in which the student was registered, the student may be reinstated only by action of the Admissions and Standards Committee.

*Scholarship Probation.* Students who have been reinstated by action of the Admission and Standards Committee are on scholarship probation during the semester following reinstatement.

*Reports to Students.* Each student receives a Deficient Scholarship Report at the mid-semester for courses in which his marks are D or E. At the close of each semester, he receives a report showing his standing in each course taken. These Semester Grade Reports are handed to the student by his adviser during a conference held with the student. Only the final semester grades are entered on the student's permanent record card.

*Reports to Parents.* A duplicate of the report cards of all unmarried students under twenty-one showing their standing in each class is mailed to the parent at the close of each semester. Report cards of other students are mailed to their home address unless the Office of the Registrar and Director of Admissions is notified prior to final examination week.

*Reports to High Schools.* A copy of the semester grade report of each student is sent to the high school from which he graduated. This is for the purpose of aiding high schools to evaluate their programs and to maintain institutional studies of their former students.

## Air Science

*General.* The Arizona State College at Tempe offers courses in basic and advanced Air Force military training. The basic course is designed to develop an understanding of the Air Force, its organization, problems, and techniques. The purpose of the Advanced Course is to train selected prospective graduates in a balanced course of officer

training, both theoretical and practical, which will qualify them to perform the duties of a commissioned officer of the United States Air Force. Students who successfully complete the advanced course receive a commission as Second Lieutenant in the Air Force Reserve.

*Requirements for Admiss'ion.* All physically fit male students, who are citizens of the United States, entering the college as freshmen or sophomores and carrying more than 5 semester hours of work, are required to complete two years of basic ROTC training. However, a student will not be enrolled initially or be allowed to re-enroll in the AFROTC after a period of nonparticipation in AFROTC training, if his age is such that he will be unable to complete all requirements for appointment as a Reserve of the Air Force prior to reaching his 28th birthday. The two years of basic ROTC training are a prerequisite for graduation unless the student is properly exempt. The advanced course is available as an elective to men who have completed the basic course. On the basis of previous honorable active service in the Air Force, Army, Navy, Marine Corps, or Coast Guard, a student may request from the head of the department a waiver of the basic course, or any portion thereof, as a requirement for entrance into the advanced course. Veterans entering at freshman or sophomore level who desire a commission through AFROTC will be required to take in phase with non-veteran contemporaries the portion of the basic program which remains. The Advanced Course, when elected by the student, becomes a prerequisite for graduation unless, for good reason, the requirement is waived by competent authority. Students electing the Advanced Course must be physically fit for military duty and within the age limit set forth above.

*Exemptions.* Exemptions from AFROTC training will be granted to only the following: (a) aliens; (b) those certified as physically unfit by the college physician; (c) those presenting evidence of at least one year of military service; (d) those transferring sufficient credit for military training from an accredited institution; (e) those disqualified by age; (A student will be disqualified if his age is such that he will be unable to complete the Advanced Course and the requirements for a degree prior to reaching his 28th birthday.) (f) those students who transfer with Junior or Senior standing from institutions not offering or requiring ROTC Training; (g) those offering other reasons acceptable to the Admissions and Standards Committee. Students requesting exemption will present the evidence to the Registrar on which they claim exemption at the time of registration.

*Attendance and Credits.* Basic students spend 2 hours in class and 2 hours in drill each week, and receive 1.5 semester hours of credit. Advanced students spend 4 hours in class and 2 hours in drill each week, and receive 3 semester hours of credit. Regular attendance in class and drill is required. Advanced students are required to attend one summer camp for approximately 4 weeks, normally at the end of the first year of the advanced course. The military training requirement does not excuse students from any of the physical education requirements.

*Pay and Deferments.* Advanced students receive pay for subsistence at the rate of \$.90 per day while attending the two year course. The total pay for subsistence will not exceed 637 days less those days while in attendance at Summer Camp. In addition to the subsistence allowance, the student will receive pay at the rate of \$78.00 per month during attendance at the summer encampment. Travel pay, uniforms, housing and dining facilities are provided at camp without cost to the student. Draft deferments for Freshmen, Sophomores, Juniors and Seniors are available to those qualified students who desire to take or who are taking the advanced course.

*Uniforms and Texts.* Each student registering for ROTC will make a deposit of \$25.00 in the Business Office. He will present the receipt to the Military Property Custodian as the basis for issue of prescribed uniforms, text books, and other materials. The full deposit, less any deductions to defray cost of any items lost or damaged through neglect, is refunded at the end of each semester.

## Military Science and Tactics

*General.* Arizona State College offers basic and advanced courses in General Military Science in the senior division of the Army Reserve Officers' Training Corps. The purpose of these courses is to train college students for positions of leadership in the Army in time of national emergency, and to strengthen their educational foundation for intelligent citizenship. Instruction is given, in both basic and advanced courses, in subjects common to all branches of the Army. The successful completion of the two-year advanced course program satisfies military education requirements for commission as a second lieutenant in the Army Reserve. Students designated as Distinguished Military Graduates are eligible for selection for a Commission in the Regular Army.

*Requirements for Admission.* All physically fit male students, who are citizens of the United States, and under 23 years of age, entering the college as freshmen or sophomores and carrying more than five semester hours of work, are required to complete successfully the two years of basic ROTC training. This requirement is a prerequisite for graduation unless the student is properly exempted. Students without previous active service in the armed forces will not be admitted initially to the basic course after reaching their twenty-third birthday. Veterans who have completed one year or more of continuous active service must not have reached age 25 at time of initial enrollment in the basic course. No student will be accepted for initial enrollment in the advanced course if he has reached age 27.

Students having completed three years of junior ROTC training and veterans having completed not less than six months, nor more than twelve months, of active service, may be exempt from the first year of the basic course, provided such previous training or service was completed within five years of date of initial enrollment in the ROTC at this College, and provided they receive the approval of the

Professor of Military Science and Tactics. Students receiving credit under the above provision will be enrolled in their initial Military Science course when they attain equivalent academic classification.

Students having completed the Army ROTC basic course and veterans having completed one year or more of continuous active service in the armed forces may, with the consent of the head of the department, enroll in the advanced course, provided such previous training or service was completed within five years of date of application for enrollment in the advanced course.

*Exemptions.* Exemptions from the ROTC requirement will be granted only to: (a) aliens; (b) those certified as physically unfit by the college physician; (c) those disqualified by age; (d) those presenting evidence of at least one year of continuous active service in the armed forces; (e) those transferring sufficient credit for ROTC training from an accredited institution; (f) those entering the college with junior or senior standing; (g) those offering other reasons acceptable to the Admissions and Standards Committee.

Students requesting exemptions must present the evidence upon which request is based to the Registrar at the time of registration.

*Attendance and Credits.* Basic course students spend 2 hours in class and 2 hours at drill each week and receive 1.5 semester hours of credit. Advanced course students spend 4 hours in class and 2 hours at drill each week and receive 3 semester hours of credit. Regular attendance in class and drill is required. Unexcused absences are reflected in semester grades.

Advanced course students are required to attend one summer camp for approximately six weeks, normally at the end of the first year of the advanced course.

The ROTC requirement does not satisfy any of the physical education requirements.

*Pay and Deferments.* Advanced course students receive a subsistence allowance of approximately \$27.00 per month except for the period of summer camp; travel pay to and from summer camp; and pay of approximately \$78.00 per month and subsistence while at camp. For each unauthorized absence of an advanced course student from an hour of ROTC instruction, an amount equivalent to 2 days commutation of subsistence will be deducted from his next payment of commutation.

Deferment from induction is granted on a competitive basis to those basic course students who apply for and are conditionally selected for advanced course training. Advanced course students receive deferments from induction and from call to active duty with USAR and National Guard Units, provided that they are considered as regularly enrolled students by the criteria of their Local Selective Service Board.

*Uniform and Texts.* Each student registering for ROTC training is required to make a deposit of \$25.00 in the Business Office. He

will present the receipt to the Military Property Custodian as the basis for issue of prescribed uniforms, text books and other materials. The full deposit, less deductions to defray cost of any items lost or damaged through neglect, is refunded at the end of each semester.

## General Education

*Requirements.* Completion of a pattern of general education courses is required of all students who are candidates for a bachelor's degree in any curriculum. The general program of courses is given below. Since requirements under this program vary somewhat from one curriculum to another, the student should select from indicated courses only after consultation with his adviser. Students from approved institutions of higher education ordinarily will be given credit, hour for hour, for work done in those institutions in so far as it is equivalent in content to courses in this program.

*Objectives.* The purposes of general education at Arizona State College at Tempe are expressed in the following objectives, adopted by the faculty in 1954.

1. To develop the individual's awareness of, and esteem for, the privileges and responsibilities of citizenship in a democratic society, and to motivate effective participation in endeavors for the common good.
2. To so improve the individual's ability to think, that he will reach valid conclusions and build a system of critically examined values by which to guide his life.
3. To so improve the individual's ability in the basic arts of communication, that he will express himself effectively, and read and listen with understanding and discernment.
4. To introduce the individual to the major problems of philosophy, and to develop a discriminating appreciation of art, music, and literature, and encourage a satisfying avocational interest in these fields.
5. To develop sufficient understanding of the biological and physical sciences, and of mathematics, so that the individual will comprehend the roles they play in our civilization and appreciate the scientific approach to many problems of human experience.
6. To develop the individual's understanding of human society, and of his cultural heritage, and to motivate application of this understanding to the social issues of the time.
7. To help the individual achieve sufficient understanding of himself, to maintain physical and mental health, and to develop his abilities for his own and the common good.

*Program.* Courses which are accepted as meeting general education requirements, and the requirements for each of the five areas, are indicated in the program below.



**I. Communications.**

For all curriculums leading to a bachelor's degree, 8 semester hours.

- |                                   |     |
|-----------------------------------|-----|
| Eng. 101, 102 First Year English  | (6) |
| Speech 110 Elements of Speech, or |     |
| Speech 115 Speech Fundamentals    | (2) |

**II. Humanities.**

For curriculums leading to the B.A. degree in Arts and Sciences, 14 semester hours of which 8 hours must be in one foreign language; for all other curriculums leading to a bachelor's degree, 8 semester hours.

**Option I**

Eight semester hours selected from the following, not more than one course in a subject: Arch. 100 Introduction to Architecture; Art 100 Introduction to Art, Art 211 Western Art to the Renaissance, Art 212 Renaissance Art; Eng. 153 World Literature—The Classical and Medieval Periods, Eng. 154 World Literature—The Renaissance and Modern Periods, Eng. 171, 172 Introduction to Literature, Eng. 221, 222 American Literature; Foreign Lang. 100 Introduction to Foreign Languages; Music 130 Introduction to Music, Music 110 Music in Living; Phil. 100 Introduction to Philosophy, Phil. 204 Contemporary Philosophy. (8)

**Option II (Experimental - enrollment limited)**

Hum. 101, 102 Introduction to Humanities, and one course from the following: Art 211 Western Art to the Renaissance, Art 212 Renaissance Art; Eng. 153 World Literature—The Classical and Medieval Periods, Eng. 154 World Literature—The Renaissance and Modern Periods; Eng. 221, 222 American Literature; Foreign Lang. 100 Introduction to Foreign Languages; Music 110 Music for Living; Phil. 204 Contemporary Philosophy. (8-9)

**Option III**

One foreign language (8)  
 Six semester hours selected from the courses in Option 1, not more than one course in a subject.  
 Foreign Lang. 100, Introduction to Foreign Languages, may not be used in this option. (6)

**Option IV (Experimental - enrollment limited)**

One foreign language (8)  
 Hum. 101, 102 Introduction to Humanities (6)

**III. Social Sciences**

For all curriculums leading to a bachelor's degree, 9 semester hours.

**Option I**

Hist. 101, 102 Survey of Western Civilization, or Hist. 103 United States Through the Civil War, Hist. 104 United States Since the Civil War. (6)

One course from the following: Anthro. 125 Elementary Anthropology, Bus. Ad. 115 Introduction to Modern Business, Bus. Ad. 130 Introduction to Economics, P.S. 101 Introduction to Political Science, P.S. 200 Constitutional Government\*, Soc. 120 Sociology. (3)

**Option II (Not offered 1955 56)**

Year Course — Introduction to the Social Sciences (6)

One semester course from the following: Hist. 101, 102 Survey of Western Civilization, Hist. 103 United States Through the Civil War, Hist. 104 United States Since the Civil War. (3)

\*Note: Only students under the Secondary Curriculum may select P.S. 200 Constitutional Government.

**IV. Sciences**

For curriculums leading to the B.A. degree in the Liberal Arts, 8 semester hours selected from the following, not more than one course from a group.

For curriculums leading to the bachelor's degree in Education and in Business Administration, 11 semester hours from the following, at least one course in Group 1 and one course in Group 2.

For curriculums leading to the B.S. degree in Agriculture, in Liberal Arts, and in Technology and Industry, 14 semester hours from the following, at least one course from each group.

**Group 1. Physical Sciences.**

Phys. Sci. 100 Physical Universe, Phys. Sci. 200 History of the Physical Sciences; Chem. 110 Elementary Chemistry, Chem. 112 General Chemistry and Qualitative Analysis; Geog. 100 Elements of Geography; Geol. 151 Physical Geology; Phys. 105 Descriptive Astronomy, Phys. 110 Introduction to Physics, Phys. 112 General Physics.

**Group 2. Biological Sciences.**

Biol. 100 Introduction to Biological Sciences, Bot. 110 General Botany; Zool. 110 Animal Biology, Zool. 112 General Zoology.

**Group 3. Mathematics.**

Math. 105 Basic Mathematics, Math. 106 Intermediate Algebra, Math. 107 College Algebra, Math. 118 Trigonometry, Math. 119 Algebra and Trigonometry.

**V. Health and Adjustment.**

For all curriculums leading to a bachelor's degree, 7 semester hours.

Physical Education Activity (2)

H.E. 100 Hygiene (2)

Psych. 100 Elementary Psychology (3)

## Graduation Requirements

The College grants the following six degrees: Bachelor of Arts in Education, Master of Arts in Education, Education Specialist, Doctor of Education, Bachelor of Arts, and Bachelor of Science. The degree of Bachelor of Arts in Education is granted to students who complete satisfactorily the requirements of any one of the teacher-education curriculums offered by the College. The degree of Master of Arts in Education is granted to those who complete satisfactorily a thirty semester hour Master's Degree Program in one of the graduate fields of specialization. The degree of Education Specialist is granted to graduate students who complete satisfactorily an approved program of graduate courses. The degree of Doctor of Education is granted to graduate students who complete satisfactorily an approved program of graduate courses and an acceptable dissertation. (See Graduate Bulletin.) The Bachelor of Arts degree, and the Bachelor of Science degree are granted to those who complete satisfactorily one of the Arts and Sciences curriculums. To obtain a second bachelor's degree, the student must do an additional 30 hours of work or more and meet all of the requirements of the particular degree.

### Requirements for the Bachelors' Degrees

*The Unit of Credit.* The semester-hour is the unit of credit. It represents one fifty-minute class exercise per week per semester with two hours of outside preparation or the equivalent in laboratory work.

*Credit Requirements.* A minimum total of 126 semester hours is required for graduation with a bachelor's degree.

*Curriculum and Course Requirements.* Alternate courses may not be substituted for required generalization courses under a particular curriculum, nor may any such courses be waived without approval of the Admissions and Standards Committee. Alternate courses may not be substituted for required courses, in the major, minor or area of concentration under a particular curriculum, nor may any such courses be waived without the approval of the curriculum adviser in the department in which such major, minor or area of concentration is offered.

*Meeting New Requirements.* Students who continue their college work without interruption may graduate under the curriculum requirements and regulations as stated in the catalog for the year the student first registered.

When enrollment is not continuous, the student will be required to meet the curriculum requirements and regulations for graduation as stated in the catalog for the year the student registers for final continuous residence prior to graduation. Any exceptions must be recommended by the student's adviser and approved by the Admissions and Standards Committee.

*First Year English.* Students who fail to pass the First Year English placement examination given during Freshman Week will be re-

quired to register for and to complete satisfactorily a course in sub-collegiate English, (English X), 3 hours per week, without credit before they may be admitted to English 101.

*Military and Air Science.* All male students entering the college as freshmen or sophomores, unless properly exempted, are required to complete two years of basic military or air science. Male students who elect advanced military or air science, unless properly exempted, shall complete that course as a prerequisite for graduation.

*Physical Education.* All students who are under 25 years of age at the date of entrance and who are classified as freshmen or sophomores, are required to complete, during their first two years in residence, two semester hours of credit in physical education activity courses, unless exempt from this requirement because of physical disability or health factors by the College Physician, or because of other reasons by the Admissions and Standards Committee.

*Scholarship Requirements.* In order that a student may be eligible for graduation, his cumulative scholarship index must be 1.75 or better for all work taken after September 1, 1941, or for all work taken while a student at this College. For an explanation of the marking system at Arizona State College see pages 61-62.

*Residence Requirements.* A minimum of one year in residence as a regular student is required of every candidate for the bachelor's degree, and the final 12 semester hours immediately preceding graduation must be taken in residence. For purposes of record, a year in residence is defined as 30 semester hours of credit earned in on-campus courses offered by regular members of the teaching staff. The phrase, *in residence*, means in regular classes held on the campus or at an established residence center. It has no reference to living in dormitories or in Tempe. Credit earned in correspondence courses cannot be used to meet residence requirements. The 12 semester hours of final residence may be taken during a semester of the regular academic year or during the summer terms. Exception to the residence regulation may be made by the Admissions and Standards Committee. Petitions for an exception must be made in writing and addressed to the Registrar and Director of Admissions.

*Application for Graduation and Teaching Certificates.* Students who plan to complete requirements for graduation at the end of either summer term or the first semester should pay the Application for Graduation fee and file their application for graduation with the Registrar and Director of Admissions before registering for their final term or semester. Those planning to complete degree requirements during the first semester must file an Application for Graduation prior to April first of the preceding academic year. Those planning to complete requirements for graduation in May should pay the Application for Graduation fee and file their applications for graduation with the Registrar and Director of Admissions before November 15. After November 15 a \$5.00 late fee is charged students planning to graduate in May who do not file the application for grad-

uation by the November 15th deadline. The filing of late applications for May commencement extends from November 16 to the last day of late registration for second semester. Students cannot change their application from one degree to another after the beginning of the final semester's work.

Application blanks are obtained in the Office of the Registrar and Director of Admissions. Candidates who fail to pay the Application for Graduation fee and file applications at the times specified are required to pay the late fee, and may be scheduled for graduation at a late date. Upon filing an application for graduation, a final check on graduation requirements is made by the Office of the Registrar and Director of Admissions. A check sheet showing the remaining requirements for graduation under the curriculum designated in the application is furnished the student as a guide to his final semester's registration.

Applications for teaching certificates should be obtained at the Office of the Registrar and Director of Admissions at the time of filing Applications for Graduation. Applications should be filed promptly after taking the oath of allegiance.

*Graduation Fees.* The Application for Graduation fee is \$10.00 if paid on or before the dates specified in the preceding paragraphs. After that date the fee is \$15.00. If a student is granted permission to receive a degree in absentia, he shall pay an additional fee of \$7.50.

*Attendance at Commencement Exercises.* Candidates for degrees are required to be present at the commencement exercises in the prescribed academic costume. Exceptions to this rule will be made only in extreme cases, and upon petition to the Registrar. The \$7.50 absentia fee is to be submitted at the time the petition is filed. If the petition is not accepted, the fee will then be refunded.

*Financial Clearance.* Before a student may participate in the commencement exercises or receive his diploma, he must obtain financial clearance at the Business Office. Financial clearance indicates that the regular fees, library, dining hall, and all other fees have been paid.

## Requirements for the Master's Degree and the Doctor's Degree

See the section of the catalog headed "The Graduate Division."

# College Services

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## College Guidance Program

Excellent instruction is one of the chief responsibilities of a progressive college. Instruction is excellent to the extent that it fits the abilities, interests, and personality traits of the students. The purpose of the guidance and counseling program of the College is to help teachers and students discover and develop those traits possessed by each student in order that he may carry out such a program of education, both in class and out, as will best fit his individual needs, and will inspire him to complete it with genuine satisfaction, and with the highest degree of achievement possible.

*Orientation.* An orientation program, under the supervision of the Division of Student Affairs, is provided for new students at the beginning of the fall term. It includes introduction of student body officers and administrative staff, recreational activities, explanations by individuals and groups of college services, curricula, and the guidance program. Throughout the year students are aided in adjustment to college life through group programs, work, faculty assistance, dormitory councils, and printed materials on study skills and personal and social competence.

*The Testing and Counseling Program.* The counseling program is a part of the program of the Division of Student Affairs. The Associate Dean of Students (Dean of Women) is directly responsible for testing and counseling.

On entering the College each student is given several aptitude tests. The results of these tests are used only in the counseling and guidance of students. The specific purposes of these tests are to discover the student's native ability and his achievement in reading, English, and other subjects.

The College Testing Center in the Office of the Division of Student Affairs, administers group testing programs and provides a test scoring service for personnel testing programs and for examinations administered by academic departments.

*Choosing a Curriculum.* During Freshman Week a number of programs are held to assist students in deciding wisely upon a curriculum. Students who are uncertain as to the curriculum they desire to follow may register for a first year program of basic studies. This program may be changed at any time the student definitely decides upon a curriculum and major or area of concentration. At this time, each student will be assigned an adviser and have conferences with him concerning his proposed choice of curriculum. Choosing a curriculum is an exceedingly important decision for a student. This choice may be

postponed until later in his freshman year, but not later than the beginning of the sophomore year. Ultimately, his happiness and success in college depend, in part, upon a selection suited to his abilities, interest, and personality.

*Curriculum Advisers.* When the student has chosen a curriculum and a major, or field of specialization, he will then be assigned a permanent adviser whose function is to assist the student in the selection of courses. The student remains under the same adviser as long as he continues under his original curriculum and major, or field of specialization. Should the student change his curriculum and major, or field of specialization, a new adviser in that field will be appointed. Due to the crowded schedules of each adviser, students are urged to take the initiative in seeking counsel regarding the adequacy of their programs of studies.

*Personal Counseling.* Personal counseling is directed by the Associate Dean of Students. In many cases the personal problems of students are referred to other faculty members or the agency best qualified to help. Likewise, the counseling often begins with the faculty and is referred to the deans for assistance.

## Housing

*Residence Halls.* There are eight halls occupied by women students. These are: Alpha Hall, Matthews Hall, North Hall, South Hall, West Hall, and Dixie Dees Gammage Hall, Gammage Annex, and La Ramada (temporary). There are six halls ordinarily occupied by men: East Hall, Stadium Hall, Hayden Hall, and the Units of Irish Quadrangle.

*Apartments.* The following temporary facilities are available: sixty-six Federal Public Housing Apartments; sixteen Palm Grove Apartments, and twenty apartments for faculty members. All are located on the campus excepting Palm Grove Apartments which are one mile south of Tempe.

*Reservations.* Accompanying the notification from the Registrar and Director of Admissions that admission has been granted, is an application form for reservation of dormitory space. This should be filled out immediately and mailed to *Housing Clerk, Business Office*, together with a deposit of \$5.00 for residence halls. A \$10.00 deposit is required for an apartment accommodation. Students are placed on reservation lists according to date of receipt of fee.

Preferences of dormitories may be stated at the time of making reservation. Assignments to halls are made by the Housing Clerk. Room assignments are made by the Head Residents under the supervision of the Dean of Students or the Associate Dean of Students.

Residence in halls, sorority or fraternity houses is restricted to students registered for 12 or more units of regular work. Any exception must be approved by the Associate Dean of Students or the Assis-

tant to the Dean of Students. The College reserves the right to change the residence of any student or to deny or cancel residence accommodations of any student in cases where such action is deemed desirable.

*Occupancy.* Housing accommodations are available for occupancy one day preceding Freshman Week. Students are expected to vacate accommodations by noon Saturday of the last week of school. Students are admitted to the assigned housing accommodations only upon presentation of the proper assignment card to the head resident or apartment supervisor.

*Hall Facilities.* All student rooms are provided with electric light, steam heat, and are furnished with a study table, a dressing table, and chairs. Sleeping porches are used the year round. There is a laundry room in each dormitory furnished with ironing boards for the laundering of personal belongings.

*Residence Regulations.* No single college influence may contribute more to the development of the personality and character of a student than that of dormitory life. The halls are so equipped and managed as to secure the maximum values at a minimum cost. For regulations governing off-campus housing see Off Campus Housing, page 76. No cooking of any kind is permitted in students' rooms. *Vocal or instrumental music may not be practiced in any of the halls.* Arrangements for such practice may be made through the music department. If radios are used, they must be adjusted so as not to interfere with the rights of others. Young women may be absent from the halls overnight only with the written consent of their parents, which must be on file with the head resident at the time of departure. Nominal dues are collected in each hall by the respective Hall Councils. This fee may not be refunded.

*Personal Equipment.* The following list of equipment is the minimum which students should bring with them when entering a hall: blankets and comforts for a single bed, one bedspread, dresser scarf, bathrobe, soft soled slippers, and washable laundry bag. All should be clearly marked with the name of the student. *The college provides and launders sheets, pillow slips, hand towels, and bath towels.*

*Regulations Concerning Guests.* Guests may be accommodated in residence halls when space is available on the following conditions: (a) that the permission of the head resident has been secured; (b) that guests do not accept invitations from residents for the first four nights of the week or during examination time unless absolutely necessary; (c) that guests do not ask for accommodations for more than a three-day period. Visiting student groups may be accommodated when previous arrangements are made in the Office of the Division of Student Affairs. A nominal rental fee is charged for these accommodations.

*Care of Halls and Apartments.* The College attempts to furnish comfortable and artistic living conditions for students. Students are expected to cooperate by keeping them so. Should any damage, beyond



the usual wear, occur to the decorations and furniture of a room, the cost of redecoration or repair will be charged to the occupants of the room.

*Off-Campus Housing.* Parents who desire their daughters to live outside the residence halls are requested to fill out the form furnished by the Associate Dean of Students. The householder must also sign an agreement in which she agrees to maintain college standards for residents in her home. Requests for such housing should be made only in special cases. The College reserves the right to forbid students to live in any situation not meeting college housing standards.

## Health Service

*Student Health Service.* This service is maintained for the purpose of constant supervision over the health of students. It is administered under the Division of Student Affairs. A dispensary and infirmary are staffed by a consulting physician and registered nurses. The Student Health Service is located on Normal Avenue.

*Health Examination.* The health examination is required of all students prior to registration. A physician's certificate of smallpox vaccination within the past four years must be furnished at the time of the examination. Students are urged to have all remediable defects, such as eyes, ears, teeth, tonsils, etc., corrected in advance of matriculation to prevent possible loss of time from studies. The Student Health Service makes recommendations concerning activities of student in which health may be a factor. Restricted class schedules or physical activity programs based on the findings of the health examination are recommended. See the item headed "Health Examination" under the section on *Admission to College* for further details of the health examination.

*Dispensary and Infirmary Treatment.* Dispensary services are available during regularly posted hours and at any hour for emergencies to all regularly registered students. No illness will be cared for in the dormitories, nor will any prescription be made for a student not reporting in person to the Health Service. Infirmary care is given according to need as determined by the staff. No student may have more than one week's bedside care without cost. Contagious diseases must receive care off campus immediately following diagnosis.

*Illness or Injury Must Be Reported.* Any illness or injury must be reported to the Student Health Service without delay. A Campus resident is required to report illness immediately to the head resident of his or her hall. Failure to do so may result in his being asked to leave the hall. Before leaving the campus because of illness, students are to report to the Student Health Service. Upon their return they are to report for approval to re-enter classes. In all cases diagnosed as contagious, the student, on his return to the college, will present to the college nurse a written statement from the attending physician. Health reports are sent to the family physician upon request of the student.

*Financial Responsibilities.* With the payment of the health fee of \$4.00 each semester, all regularly registered students are entitled to student health service care according to established policies. Students may be referred to consultant specialists when the college physician considers it advisable, but such fees must be borne by the student. When hospitalization or surgical attention is considered necessary, the college assumes no financial responsibility. Parents are consulted in advance of hospitalization if at all possible. A fee of \$4.00 a day is charged for Infirmary care after one week.

## Placement Bureau

The Placement Bureau is maintained to assist undergraduate and graduate students in obtaining employment according to their training, ability, and experience. It is the purpose of the Bureau to serve the state and region by providing adequately trained personnel for business, industry and education. Although the Placement Bureau does not guarantee placement, every effort is made to aid students and those in the field who desire placement assistance. Candidates may enroll by filling out the appropriate blanks. Upon enrolling, candidates receive full information and instructions relative to securing employment. Complete records are kept on file in the office. *Yearly renewal keeps credentials in active file.*

Students can find information regarding the knowledge necessary, the requirements, and the opportunities in a variety of vocations in the Vocational Information Center. This Center makes available general vocational materials, specific information dealing with special fields of interest, and literature furnished by different types of commercial and educational institutions.

*Student Placement.* The Placement Bureau aids students attending college in securing part time employment, both on and off the campus, which tends to supplement their educational goals. All students who are interested in on or off campus placement should register with this office.

*Teacher Placement.* The Placement Bureau assists graduating students in obtaining teaching positions. It seeks, at the same time, to serve the best interests of the superintendents and school trustees of the state who desire to secure teachers adapted to the needs of their particular school.

*Commercial Placement.* The Placement Bureau also serves graduating students who are interested in commercial and industrial placement. Effort is made to place students in their chosen fields, and at the same time aid industries to obtain properly trained personnel.

All correspondence should be addressed to the appropriate division in the Placement Bureau.

## Alumni Association

*Membership.* The Alumni Association was organized under the leadership of President E. L. Storment, in June, 1894. Keeping pace with the tremendous growth of the College, the association employed a full-time executive secretary in September, 1947, and has embarked on a broad program of activities with a permanent staff now expanded to three members and a distinguished board of officers and directors. There are about 12,000 graduates including the class of 1954. All students become active members when they pay their graduation fee. All students who have attended the College at least one semester are listed as associate members.

*Memorial Student Union Campaign.* The Alumni Association has sponsored a fund drive to raise \$350,000 in public contributions toward a \$1,300,000 Memorial Student Union Building for the College. This drive has brought in over \$350,000 and construction is now under way with completion scheduled for late 1955. Charles A. Stauffer, '01, is General Chairman of the campaign.

*Endowment Fund.* Under the leadership of the late Clarence M. Paddock, '03, and Leona M. Haulot, '02, the Association raised an endowment fund of \$10,000.00 for the assistance of worthy students. The fund has now increased to more than \$30,000.00, and more than 500 students have received aid from the fund. Loans are made only to juniors, seniors or graduate students.

*Alumni Awards.* At least two are given each year to outstanding students. See description under "Honors and Awards."

*Alumni Housing.* To meet the need of housing returning veterans and their families, the Alumni Association has financed a \$40,000 emergency housing development on campus.

*Alumni Magazine.* The Association's official magazine, the *Statesman*, is published quarterly for all active members. Present circulation is 9,000.

*Alumni Induction Ceremony.* This ceremony is held annually during Commencement Week. Members of the graduating class receive alumni membership cards and are acquainted with other alumni and with the Alumni Association program.

*Alumni Register.* The Alumni Association maintains a card file of the names, addresses and occupations of all active members of the Association. This is a difficult task because names and addresses are constantly changing. Alumni and friends can be of real service by sending a post card to the Alumni Secretary giving changes in names and addresses.

*Officers of the Alumni Association, 1954-1955*

Charles C. Stidham, '42, President.....	Phoenix
Stephen Farris, '47, First Vice President.....	Phoenix
Dr. Robert G. Adams, '26, Second Vice President.....	Oakland
John Gay Gregory, '51, Third Vice President.....	Globe
Margaret (Carr) Bouse, '28, Secretary.....	Tempe
George Morrell, '41, Treasurer.....	Tempe
Horace B. Griffen, '14, Board of Directors.....	Phoenix
Don Ellis, '44, Board of Directors.....	Tempe
Hascall Henshaw, '41, Board of Directors.....	Tempe
Sidney B. Moeur, '14, Board of Directors.....	Phoenix
Dr. D. R. Van Petten, '33, Board of Directors.....	Tempe
Sherman R. Payne, '48, Board of Directors.....	Phoenix
John R. Sandige, '14, Trust Officer.....	Phoenix
James W. Creasman, '35, Executive Secretary.....	Arizona State College

# Student Affairs

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## Student Government

*Associated Students.* Every student of the college is automatically a member of the Associated Student Body. The Board of Regents, the President, and the faculty challenge every student to accept his individual responsibility for stimulating and regulating student activities and customs, and for promoting the intellectual, moral, and social welfare of all students in a truly democratic manner. These objectives are attained by encouraging all students to participate in the government of the College.

*Associated Men Students.* Every man registered in the College is a member of the Associated Men Students. The purpose of this organization is to promote the highest standards of college life, to aid men students in problems of adjustment and social relationships, and to make provisions for social activities and for such other functions as may be in the best interests of the men students and the College. The group is governed by officers elected by the members of the organization.

*Associated Women Students.* Every woman registered in the College is a member of the Associated Women Students. The purpose of this organization is to bring about greater unity and mutual helpfulness among the women of the College. A governing body called the A.W.S. Council is composed of duly elected officers, the presidents of the women's dormitories, and the president of Off-Campus Women. *Off-Campus Women* is a part of A.W.S. and membership is open to all women not living in residence halls. This group offers an opportunity for these women to feel that they are a part of the College and to enjoy social life along with their studies.

*The Student Union.* Anticipating the time when a permanent student union will be established, the students are operating a temporary student center which includes eating facilities. It is staffed by a trained manager.

*The Student Social Program.* The college calendar brings together programs and functions held on the campus and elsewhere. The Division of Student Affairs coordinates over 100 groups in their activities. A wide variety of activities is scheduled throughout the year. These include athletic events; social events including dances, dinners, banquets, teas; entertainment and lecture series; music and other cultural gatherings. Both men's and women's residence halls play an important part in carrying out the social program under the supervision of carefully selected personnel officers and faculty members. In addition to the all college social and cultural functions, the various organizations offer programs and activities varying with their interests and fields of specialization.

## Student Organizations

*Program.* A wholesome, integrated program for the college student is provided through student organizations. According to the individual interest and available time, any student may choose those activities which meet his desire for congenial companionship, his need for group security, his need for recognition, his need for creative effort, his need for growth—physically or socially—or supplement his classroom work in the many activities which are an extension of classroom programs.

*Official Approval.* Official approval of organizations may be withdrawn at any time the organization fails to comply with rules and regulations of Associated Students. At least twice each year organizations are requested to submit the names of officers and other basic information. All approved organizations must have a copy of their constitution on file in the Office of Student Affairs. Organizations which do not meet these minimum requirements are removed from the official list which appears annually in the college catalog. Mail boxes are provided for all officially approved organizations in the Division of Student Affairs.

*Scholastic Requirements.* In order to be eligible for admission to membership in any student organization, a student must have a scholarship index of 2.00 or better in all courses carried for the semester immediately preceding. Any member of such an organization whose semester report shows a scholarship index of less than 2.00 may be suspended from active work in the organization for one semester.

### Honorary Groups

#### For Men

*Alpha Delta Sigma* (National advertising honorary fraternity)  
*Alpha Mu Sigma* (Honorary service fraternity)  
*Arnold Air Society* (National honorary Air Force fraternity)  
*Blue Key* (National honorary service)  
*Delta Sigma Pi* (National business administration professional fraternity)  
*Kappa Kappa Psi* (National band fraternity)  
*Pershing Rifles* (National professional honorary for R.O.T.C. cadets)  
*Phi Eta Sigma* (National honor society for freshman men)

#### For Women

*Alpha Pi Epsilon* (National secretarial honor organization)  
*Beta Chi Epsilon* (Home Economics)  
*Lariats* (Honorary for sophomore women)  
*Pleiades* (Honorary service organization)  
*Tau Beta Sigma* (National band sorority)  
 Women's "A" Club (Honorary association in sports)

**For Both Men and Women**

*Alpha Beta Alpha* (National library science fraternity)  
*Alpha Mu Gamma* (Foreign language)  
*Beta Beta Beta* (Biology)  
*Civil Air Patrol* (An auxiliary of the United States Air Force)  
*Gamma Theta Upsilon* (National honorary professional geographic fraternity)  
*Kappa Delta Pi* (National honorary education society)  
*Mu Rho Alpha* (National music fraternity)  
*Phi Kappa Phi* (National scholarship honor society)  
*Pi Delta Epsilon* (National journalism honorary)  
*Pi Kappa Delta* (Forensic fraternity)  
*Pi Omega Pi* (National commerce honor society)  
*Psi Chi* (Psychology)  
*Theta Chi Epsilon* (Honorary art fraternity)

## Special Interest Groups

**For Men**

*Arizona State Men's Glee Club*  
*Phi Delta Kappa* (Professional education fraternity)

**For Women**

*Off Campus Women*  
*Pom Pon Girls*  
*Racquet Club* (Tennis)  
*Skikayah Camping Club*  
*Women's Athletic Association*  
*Women's Physical Education Major and Minor Club*

**For Both Men and Women**

*American Association of Engineers*  
*American Chemical Society*  
*American Institute of Architects*  
*Arizona State College Agriculture Club*  
*ASC Camera Club*  
*Association for Childhood Education*  
*Astronomy Club, The*  
*Devils and Dames* (Square Dance)  
*Future Teachers of America*  
*German Verein*  
*Gymnastic Club*  
*International Relations Club*  
*La Liga Panamericana* (Promotes friendly relations among those interested in things Spanish)  
*Los Conquistadores* (Promotes the welfare of the Spanish-speaking students)  
*Mask and Sandal* (Drama)  
*Orchesis* (Modern Dance)  
*Pasteur Scientific Society*  
*Press Club*  
*Russian Circle*  
*Student Marketing Club of the American Marketing Association*

*Sun Devil Band*  
*Sun Devil Rodeo Association*  
*Young Republicans Club of ASC*

### Religious Groups

*Religious Council.* Composed of representative students from all denominations. Promotes religious programs, and fosters religious living.

#### **For Men**

*Campus YMCA*  
*Delta Phi* (L.D.S. returned missionaries)  
*Lambda Delta Sigma - Phi Alpha Chapter* (L.D.S.)

#### **For Women**

*Lambda Delta Sigma - Phi Omega Chapter* (L.D.S.)

#### **For Both Men and Women**

*Baptist Student Union*  
*Baptist Young People's Union*  
*Canterbury Club* (Episcopalian)  
*Christian Science Organization*  
*Hillel Foundation* (Jewish)  
*Lutheran Student Association*  
*Martin Luther Society*  
*Newman Club* (Roman Catholic)  
*Student Christian Fellowship* (Congregational, American Baptist, and Disciples of Christ)  
*Wesley Foundation* (Methodist)  
*Westminster Student Fellowship* (Presbyterian)

### Sororities and Fraternities

*Panhellenic Council.* The Panhellenic Council is composed of representatives of each sorority and the Associate Dean of Students. Sponsors are members ex officio.

*Junior Panhellenic Council.* The Junior Panhellenic is composed of representatives from the pledge class of each sorority.

*Sororities.* The following Greek letter societies carry on the traditional objectives of each group:

*Alpha Delta Pi* (national)  
*Alpha Sigma Alpha* (national)  
*Chi Omega* (national)  
*Gamma Phi Beta* (national)  
*Kappa Delta* (national)  
*Sigma Sigma Sigma* (national)

*Interfraternity Council.* Composed of two elected representatives from each member fraternity and the faculty adviser. The Interfraternity Council is the liaison between individual fraternities and the Associated Students and College administration.

*Fraternities.* The following Greek letter societies carry on the traditional objectives of each group.



*Alpha Epsilon Pi* (national)  
*Alpha Gamma Sigma* (Colony of Alpha Gamma Rho)  
*Alpha Tau Omega* (national)  
*Delta Chi* (national)  
*Delta Sigma Phi* (national)  
*Kappa Alpha Psi* (national)  
*Lambda Chi Alpha* (national)  
*Nu Sigma* (local)  
*Phi Delta Beta* (local)  
*Phi Sigma Kappa* (national)  
*Pi Kappa Alpha* (national)  
*Sigma Phi Epsilon* (national)  
*Sigma Pi* (national)  
*Tau Kappa Epsilon* (national)  
*Theta Chi* (national)

## Special Group Activities

### Music Activities

Opportunities are offered through public recitals for the expression of musical talent by the students of voice, piano, brass and wood-wind instruments; the Choral Union; the Concert Choir; opera workshop and the band and orchestra. College credit is given for regular work in these courses.

### Physical Education and Recreation Activities

Play activities are carried on under the sponsorships of the men's and women's division of the Department of Health, Physical Education and Recreation. These activities are generally alluded to as intramurals. In addition, there is the program of intercollegiate athletics under the direction of the Athletic Department.

*Facilities.* The women's department is housed in the B. B. Moeur Activity Building which is also the center of the social activities on the campus. The men's division is located in the new Men's Physical Education Building which also provides quarters for the Department of Intercollegiate Athletics. Each division has its own athletic field. In addition, ten concrete tennis courts are available. The outdoor part of the intercollegiate program makes use of Goodwin Stadium. Basketball and other indoor events are provided for in the new gymnasium.

*Intramurals.* Each division of the Department of Health, Physical Education and Recreation maintains an excellent program of intramurals open to all students. The women's division offers competition in volleyball, softball, hockey, basketball, golf, badminton, tennis, archery, as well as folk, tap, and modern dance. The women's division also sponsors sports days and tournaments with other colleges and universities. The men's division maintains such sports as tennis, volleyball, table tennis, cross-country, touch football, badminton, horseshoes, basketball, track, softball, golf and swimming. In addition, a beginning is being made in co-recreational activities.

*Intercollegiate Athletics.* The College is a member of the Border Conference and is represented in such sports as football, basketball, field and track, baseball, tennis, and golf. The purpose of the program of intercollegiate athletics at The Arizona State College at Tempe is to provide the following important educational experiences, all of which the faculty of the institution believe are fundamental to the American way of life: (a) To train students in legitimate methods of good sportsmanship, in competition, and in the will to win. (b) To aid in character development which includes cooperation and teamwork, leadership qualities, group loyalty, clean living and right thinking. (c) To contribute to the development of institutional morale, loyalty and school spirit. (d) To supply wholesome recreation for the participants and other students. (e) To serve as a laboratory for the professional courses of those interested in physical education and coaching as a career.

### Speech and Dramatics

*Forensics.* The College offers an extensive program of intramural and intercollegiate forensics, including debate, extemporaneous speaking, oratory, impromptu speaking, discussion, and radio speaking. This activity provides one of the few ways in which the students and the school can establish prestige in academic competition. Each year rival speakers from many of the nation's major colleges and universities are met. The school is affiliated with three forensic leagues — The Arizona Speech League, which sponsors an annual tournament among six colleges in the state; the Western Association of Teachers of Speech, which sponsors a fall tournament for all western states; and the Pi Kappa Delta League, which holds a biannual national tournament, as well as tournaments in the western region. Students become eligible for membership in Pi Kappa Delta, national honorary speech fraternity, by a stipulated degree of proficiency in forensics.

*Dramatics.* The work in dramatics is designed to accomplish the following objectives: (1) To develop talent through participation in plays, recitals, and production. (2) To fulfill the social and therapeutic functions of dramatics in cases of defective personality. (3) To improve audience standards of entertainment. Active participation in dramatics may lead to an invitation to membership in Mask and Sandal, the local dramatics club, or Alpha Psi Omega, national dramatic fraternity.

### Radio and Television

*Station KASC.* For the training of students in radio skills, the Radio-Television Section of the College maintains station KASC, a "wired wireless" radio station run by and for the students of the College. It is heard at 725 on any AM radio dial within the confines of the ASC campus. Programming ten hours of live programs six days a week, station KASC provides students with supervised practical experience in the maintenance and operation of a radio station. Students of all grade levels work at the jobs of writing, producing,

and presenting programs over station KASC, which is completely equipped with the finest of professional radio equipment.

*Television Programs.* As part of its off-campus educational effort, the College prepares and produces over local commercial television stations regular series of educational programs. These programs are produced by the Radio-Television Section, with students assisting in order to gain experience in this newest field of communication. Courses in radio and television production are closely related to the production of these programs, as well as the operation of station KASC. Student participation in the television programs includes art work, properties, dramatic performances, writing, production, and other details involved in the presentation of television programs.

## Student Publications

*The State Press.* Under the joint auspices of the Administration, the Associated Students, and the Division of Journalism, there is published weekly throughout the college year a five column, eight to twelve page newspaper. Besides rating highly as a student activity, the *State Press* also serves as a workshop or laboratory for the reporting and editing classes in Journalism. Its editors are selected by the Board of Publicans, which represents an equal partnership between Associated Students and faculty. The editors select their staffs. The head of the Division of Journalism serves as adviser. Financial matters are directed by the Associated Students. Student subscriptions are included in the activity fee.

*The Sahuaro.* The yearbook likewise is published under Board of Publications auspices, and its editorship, advisership and business management are organized similarly to those of the *State Press*. Students interested in yearbook activity, including art work, find opportunity on the *Sahuaro* staff. Individual students may have their portraits in the class section of the *Sahuaro* without charge other than the activity fee. The book is financed from four sources: an Associated Students' appropriation, organization fees, advertising, and sales, which may be on a time payment plan.

# College Of Liberal Arts

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## Purpose

The College of Liberal Arts aims to give the student an opportunity to secure a well-rounded liberal education. Life in a changing world calls for a broad training and an appreciative understanding of the varied elements in our own and other cultures. Today the peoples of various nationalities, languages, religions, and vocational interests intermingle in a human society increasingly interdependent and bound together by improved means of communication, transportation, trade, and governmental cooperation. Peaceful and effective living in such a world requires flexibility in personal equipment and ability to make quick and intelligent adjustments in the social as well as the physical environment.

The liberally educated person will have facility with his own, and preferably one or more other languages; he will possess an understanding of himself and a broad knowledge of his physical, social, moral, and spiritual environment; he will be able to deal effectively with the problems of his day in the light of the most reliable and tested knowledge of his time; he will have an appreciative understanding of the fine arts and find enjoyment in them; he will be able to live and act in the home, the local community, the nation, and the international community as an informed, responsible, and understanding human being.

The degree requirements are so arranged as to acquaint the student with the main fields of human knowledge and, at the same time, to bring to light his special aptitudes and interests. Although emphasizing breadth of training, the curriculums permit such a degree of specialization as to prepare the student for work in a professional school, for graduate study, or for the duties of a vocation. Within the limits of the curriculum chosen, the student may elect to take a part of his work among the course offerings of the Colleges of Education, Business Administration, and Applied Arts and Sciences.

## Organization

The College of Liberal Arts is divided into the following Departments of Instruction:

Air Science	Library Science
Art	Mathematics
Biological Sciences	Military Science and Tactics
English	Music
Foreign Languages	Physical Sciences
Health, Physical	Psychology
Education, and Recreation	Social Studies
Home Economics	

## Degrees

The College of Liberal Arts offers two degrees: the Bachelor of Arts and the Bachelor of Science. They are similar in that both require 126 semester hours of credit for graduation and call for a considerable distribution of studies; yet they also permit of specialization. Indeed, they require sufficient stress in major fields to insure some degree of mastery in particular fields. In general, the distinction between the curriculums offered for these two degrees lies in the fact that for the Bachelor of Arts degree emphasis is placed on a broader, humanistic program, whereas for the Bachelor of Science, greater emphasis is placed on a special scientific field.

### Bachelor of Arts Degree Curriculum

The curriculum for the degree of Bachelor of Arts is designed to give the student a broad, general background in the principal fields of human knowledge and a reasonable amount of specialized training in a selected area. It is divided into three parts:

#### General Education

1. *Communications* ..... 8 sem. hours
  - Eng. 101, 102 ..... 6 sem. hours
  - Spch. 110 or 115 ..... 2 sem. hours
2. *Humanities* ..... 14 sem. hours

#### Option III

- One foreign language..... 8 sem. hours
- Six semester hours to be selected from the following, not more than one course in a subject:
  - Arch. 100; Art 100, 211, 212;
  - Eng. 153, 154, 171, 172, 221, 222; Mus. 110, 130; Phil. 100, 204 ..... 6 sem. hours

#### Option IV

- One Foreign Language ..... 8 sem. hours
- Hum. 101, 102 ..... 6 sem. hours

3. *Social Sciences*..... 9 sem. hours.

#### Option I

- Hist. 101, 102 or Hist. 103, 104..... 6 sem. hours
- One course to be selected from the following: Anthro. 125; B.A. 115, 130; P.S. 101; Soc. 120 ..... 3 sem. hours

4. *Sciences* ..... 8 sem. hours

At least one course to be selected from each of two of the following groups:

Group 1.—Physical Sciences—

Phys. Sci. 100, 200; Chem.

110, 112; Geog. 100; Geol. 151;

Phys. 105, 110, 112.

Group 2.—Biological Sciences—

Biol. 100; Bot. 110; Zool. 110,

112.

Group 3.—Mathematics—

Math. 105, 106, 107, 118, 119.

5. *Health and Adjustment*..... 7 sem. hours

Physical Education Activity..... 2 sem. hours

H.E. 100 ..... 2 sem. hours

Psych. 100 ..... 3 sem. hours

Since the introductory courses designed to meet the general education requirements are necessarily elementary, the student is expected to take most of them in his first two years. He will then be able to devote most of his last two years to advanced work in the field of his special interest.

### Major Requirements

A major shall consist of from 45 to 50 semester hours of credit. At least 24 of these semester hours must be in a single subject field, and at least 15 must be in one or more different but related subject fields.

The majors in the following list which are marked with an asterisk (\*) require a four-year sequence of courses. A student who elects them after the first semester of his college career must therefore expect to spend more than four years in attaining the bachelor's degree. Majors not marked with an asterisk can be completed in three years or less, and may therefore be elected at the beginning of the sophomore year with no loss of time.

Department	Major
Art	Fine Arts, with emphasis in Painting Sculpture Art History General Art
Biological Sciences	*Botany *Entomology *General Biology *Zoology

Department	Major
English	English Dramatics Journalism Radio-Television Speech
Foreign Languages	*Spanish
Health, Physical Education, and Recreation	Health Education Physical Education Recreation
Home Economics	Clothing, Textiles, and Related Arts Family Life and Child Development Foods and Nutrition
Mathematics	*Mathematics
Music	*Applied Music General Music *Music Theory
Physical Sciences	*Chemistry Geography Geology *Physics
Psychology	Psychology
Social Studies	Economics History Political Science Sociology Sociology-Anthropology Social Studies Social Welfare
Inter-Departmental	General Studies

### Elective Courses

Sufficient elective courses from the entire offering of the College will be chosen by the student in order to complete 126 semester hours required for graduation. A student may group 15 or more of his elective hours to form a minor if he desires.

### Four-year Curriculum Outline

The following is a suggested outline to indicate to the student one way in which the general education, major, and elective requirements may be worked into a four-year pattern of study. Except in unusual cases, most general education requirements should be completed during the first two years of study.

FIRST YEAR

First Semester		Second Semester	
Eng. 101 First Year English	3	Eng. 102 First Year English	3
A.S. 101 Basic Air Science or M.S. 101 Basic Military Science	1.5	A.S. 102 Basic Air Science or M.S. 102 Basic Military Science	1.5
Physical Activity (P.E. 101 or 107)	.5	Physical Activity (P.E. 102 or 108)	.5
Foreign Language	4	Foreign Language	4
Science or Mathematics	3 to 4	Science or Mathematics	3 to 4
Humanities or Social Science	2 to 4	Humanities or Social Science	2 to 4
Elective	2	Elective	2 to 4
*H.E. 100 Hygiene (women)	2		
	15½ to 17½		15½ to 18

SECOND YEAR

First Semester		Second Semester	
A.S. 103 Basic Air Science or M.S. 103 Basic Military Science	1.5	Psych. 100 Elementary Psychology	3
Physical Activity	.5	Sph. 110 or 115	2
*H.E. 100 Hygiene (men)	2	A.S. 104 Basic Air Science or M.S. 104 Basic Military Science	1.5
Major	3 to 4	Physical Activity	.5
Science or Math. Elective	2 to 3	Major	3 to 6
Social Science or Humanities	3	Social Science or Humanities	3
Elective	3	Elective	3
Other electives to complete 15 to 17 hrs.		Other Electives to complete 15 to 17 hrs.	

THIRD YEAR

First Semester		Second Semester	
Social Science or Humanities		Social Science or Humanities	
Elective	3	Elective	3
Major	3 to 9	Major	3 to 9
Other Electives to complete 15 to 17 hrs.		Other Electives to complete 15 to 17 hrs.	

FOURTH YEAR

First Semester		Second Semester	
Major	3 to 9	Major	3 to 9
Other Electives to complete 15 to 17 hrs.		Other Electives to complete 15 to 17 hrs.	

Many students are not ready to choose a major at the time they enter college. For such students a first year program of basic studies has been devised. Successful completion of this program will qualify a student to enter upon any of the three-year majors at the beginning of his sophomore year with no loss of time. This program may be substituted for the first year program given in the above outline.

First Semester		Second Semester	
English 101	3	English 102	3
A.S. or M.S. 101 (Men only)	1.5	A.S. or M.S. 102 (Men only)	1.5
Science or Mathematics	3 to 4	Science or Mathematics	3 to 4
Foreign Language 101	4	Foreign Language 102	4
*Psychology 100	3	*Sociology 120	3
F.E. Activity	.5	F.E. Activity	.5
	15 to 16		15 to 16

\*May be taken either semester.

Departmental Major Requirements

Art

(1) *Fine Arts*: A major in Fine Arts shall consist of 45 semester hours. The following emphases are available:

(a) *Painting*: Required courses in basic art training: Art 101, 103, 105, 106, 161, 211, 212, 213.

Required courses in painting and drawing: Art 191, 201, 203, 215, 261, 262, 291, 292, and art electives to complete the 45 hours, selected in consultation with the adviser.

(b) *Sculpture*: Required courses in basic art training: Art 101, 103, 105, 151, 211, 212, 213.

Required courses in sculpture and drawing: Art 171, 201, 203, 204, 205, 271, 272, 290, and art electives to complete the 45 hours, selected in consultation with the adviser.



A combined emphasis in sculpture and painting is possible, if the student desires.

- (c) *Art History*: Required courses: Art 101, 105, 106, 211, 212, 213, 214 and sufficient courses in art and related fields to complete 45 hours, selected in consultation with the adviser.
- (d) *General Art*: Required courses in basic art training: Art 101, 103, 105, 106, 211, 212, 213, and art electives to complete the 45 hours, selected in consultation with the adviser.

### Biological Sciences

- (1) *Botany*: A major in Botany shall consist of 50 semester hours.

Required courses: Bact. 110; Biol. 204, 280; Bot. 110, 160, 171, 172, 230, 242; Chem. 110; Phys. 110; Zool. 110. An additional 4 hours of upper division work selected with the approval of the adviser. A minor may be selected with the approval of the major adviser. The following are suggested areas: Agronomy, Art, Chemistry, Entomology, Zoology.

- (2) *Entomology*: A major in Entomology shall consist of 50 semester hours.

Required courses: Biol. 204, 280; Bot. 110; Chem. 110; Phys. 110; Zool. 111, 112, 180, 216, 222, and 231. An additional 10 hours selected with the approval of the major adviser.

A minor field may be selected with the approval of the major adviser. The following are suggested areas: Agriculture, Botany, Chemistry, Spanish.

- (3) *General Biology*: A major in General Biology shall consist of 50 semester hours.

Required courses: Bact. 110; Biol. 204, 280; Bot. 110; Chem. 110; Phys. 110; Zool. 111, 112; Bot. or Zool. 230, 260. An additional 12 hours, 4 of which must be upper division, selected with the approval of the adviser from Biological Science course offerings listed in the catalog, unless otherwise indicated in course description.

A minor field may be selected with the approval of the major adviser. The following are suggested areas: Agriculture, Art, Botany, Chemistry, English, Entomology, Geology, Physics, Psychology, Social Studies, Zoology.

- (4) *Zoology*: A major in Zoology shall consist of 50 semester hours.

Required courses: Biol. 204, 280; Bot. 110; Chem. 110; Phys. 110; Zool. 111, 112, 163, 180, 231, 232, 270. An additional 6 hours selected with the approval of the major adviser.

A minor field may be selected with the approval of the major adviser. The following are suggested areas: Animal Husbandry, Botany, Chemistry, Entomology.

**English**

- (1) *English*: A major in English shall consist of 47 semester hours.

Required courses: Eng. 128, 151, 152; Hist. 105, 106; Foreign Languages, 8 hours in addition to the general education requirements. One course is required in each of the following groups: Group I, Eng. 253, 254; Group II, Eng. 209, 211, 212, 221, 222; Group III, Eng. 201, 203, 213, 214, 215, 216, 217, 218, 226; Group IV, Eng. 205, 206, 223, 244; Group V, Spch. 120, 127, 170, 221, 260. The hours needed to complete the 47 hours required for the major may be chosen from the complete departmental offering. With the consent of the adviser, an additional 3 hours in related fields may be substituted for English courses.

- (2) *Dramatics*: A major in Dramatics shall consist of 47 semester hours.

Required courses: Spch. 119, 120, 122, 170, 221, 235, 260; Eng. 128, 151, 152, and 6 hours of upper division literature. The hours needed to complete the 47 semester hours for the major may be selected from other offerings in speech and dramatics or, with the consent of the adviser, from related fields.

- (3) *Journalism*: A major in Journalism shall consist of 47 semester hours.

Required courses: Journ. 130, 140, 141, 243, 250, 251, 299; Eng. 128, 151, 152, and 6 hours of upper division literature; B.A. 132; P.S. 101. The hours needed to complete the 47 semester hours for the major may be selected from other offerings in journalism or, with the consent of the adviser, from related fields.

- (4) *Radio-Television*: A major in Radio-Television shall consist of 47 semester hours.

Required courses: Journ. 130, 140, 241; Eng. 128; Spch. 170, 232, 236; B.A. 175, 227. The hours needed to complete the major will be selected by the student in consultation with the adviser from among those courses in the Department of English, and other departments.

- (5) *Speech*: A major in Speech shall consist of 47 semester hours.

Required courses: Spch. 115, 120, 129, 170, 221, 257, 260, and 8 hours of upper division speech electives; Eng. 128, 151, 152, and 6 hours of upper division literature. The hours needed to complete the 47 semester hours for the major may be selected from other offerings in speech or, with the consent of the adviser, from related fields.

**Foreign Languages**

- (1) *Spanish*: A major in Spanish shall consist of 45 semester hours in addition to the prerequisite courses, Spanish 101 and 102, which may be taken in fulfillment of the general education requirements in Foreign Language.

Required courses: Span. 103, 104, 203, 204, 205, 206, and 207 or 224. An additional sequence of courses sufficient to complete the 45 semester hours in the major, to be selected with the approval of the adviser, from among the following: Eng. 151, 152, 153; French 103, 104; Ger. 103, 104; Hist. 115, 116, 205, 207; Lat. 101, 102; Rus. 101, 102; and other courses in Spanish listed in the catalog.

A minor (optional) of 15 semester hours in a related field, selected with the approval of the student's adviser.

#### **Health, Physical Education, and Recreation**

- (1) *Health Education*: A major in Health Education shall consist of 45 semester hours. Of these, 24 hours must be in health education or a closely related field. One half of the required 24 hours must be upper division courses.  
Required courses: Bact. 110; Zool. 171, 172; Spch. 120; Psych. 225. The remaining 30 semester hours shall be chosen by the student in consultation with his adviser.  
Optional: Psych. 211, 213, 234; Ed. 211, 226, 232, 233, 236, 250; Spch. 120, 215; Soc. 204, 205, 206; H. Ec. 101. Other related courses may be substituted with the approval of the adviser.
- (2) *Physical Education*: A major in Physical Education shall consist of 45 semester hours. Of these, 24 hours must be in physical education or a closely related field. Fifteen hours of the required 24 hours must be upper division courses.  
Required courses: Zool. 171, 172; P.E. 109, 236, and 4 semester hours physical education activity. The remaining 29 semester hours shall be chosen by the student in consultation with his adviser.  
Optional: Zool. 163, 225; Bact. 110; Chem. 180; Phys. 113; Soc. 225; Psych. 114, 240; Mus. 111; Art 105, 117, 151; T. I. 221, 233; P. E. 195, 196, 4 semester hours activity. Other related courses may be substituted with approval of adviser.
- (3) *Recreation*: A major in Recreation shall consist of 45-50 semester hours. This major is designed to present the student with the theories and practices of the field of recreation, and to prepare him with the necessary personal skills.  
Required courses: P.E. 110, 231, 233, 237, and 4 semester hours of physical education activity. The remaining 34 hours shall be selected by the student in consultation with his adviser.  
Optional: Art 117, 151; B.A. 130, 134, 257; Ed. 160, 161, 205, 231, 233; H. Ec. 205; T. I. 121, 133; Journ. 130; P. E. 175, 191, 192, 193, 195, 196, 205, 217, 218, 219, 224, 225, 229, 234, 235, 251, 256; P. S. 103; Psych. 231, 234; Spch. 120, 230, 235, 240; Soc. 204, 209, 212, 215, 220, 225; Zool. 111, 112, 231. Other related courses may be substituted with approval of adviser.

**Home Economics**

- (1) *Clothing, Textiles, and Related Arts*: A major in Clothing, Textiles, and Related Art shall consist of 45 semester hours. Required courses: H. Ec. 100, 101, 102, 104, 105 or 106, 107 or 108, 203, 209, 214, 215, and 217. An additional 18 hours will be selected by the student with the approval of the adviser from the following:  

Clothing and Textiles: H. Ec. 202, 211, 213, 218, 219, 221; Art 103, 105, 106, 117, 131, 217, and 218.  
Costume Design: H. Ec. 202, 211, 213, 218, 219, 221; Art 103, 105, 106, 131, 135, 231, and 232.  
Interior Decorating: H. Ec. 202, 216, 219, 221, 226; Arch. 100, 130; Art 101, 106, 141, 241; T. I. 105, 136, 236, 284, and 289.
- (2) *Family Life and Child Development*: A major in Family Life and Child Development shall consist of 45 semester hours. Required courses: H. Ec. 100, 101, 102, 104, 105, 107 or 108, 203, 209, 214, 215, and 217. An additional 18 hours to be chosen with the approval of the adviser, from the following: H. Ec. 104, 202, 206, 207, 210, 233; B. A. 130; Ed. 160, 161, 205; Psych. 215, 225, 231, 240; Soc. 203, 204, 225; Zool. 171 and 172.
- (3) *Foods and Nutrition*: A major in Foods and Nutrition shall consist of 45 semester hours. Required courses: H. Ec. 100, 101, 102, 104, 105, 107 or 108, 203, 209, 214, 215, 217. An additional 18 hours to be chosen with the approval of the adviser from the following: H. Ec. 202, 205, 206, 210, 212, 225, 243; Bact. 110; Chem. 180, 280, 281; Phys. 110; Zool. 171 and 172. By careful selection, a student may, with the exception of two courses, meet the requirements set up by the American Dietetics Association for entrance to dietetic internship.

**Mathematics**

- (1) *Mathematics*: A major in Mathematics shall consist of 45 semester hours. Required courses: Math. 119 (or Math. 106, 107, 118), 120, 122, 123, 221, 222, and three or more additional upper division mathematics courses selected by the student with the approval of his adviser. At least one course in Mathematics must be taken each semester. The hours needed to complete the major will be selected by the student with the approval of his adviser, usually from courses in the physical sciences. In addition, it is strongly recommended that the student acquire a reading knowledge of both French and German.

**Music**

Students planning a major in music under any of the curriculums must take certain tests to determine their general aptitude and

achievement, and their special accomplishments in voice or on instrument. For information concerning the time and extent of these tests, consult the Head of the Department of Music.

All students majoring in music are required to attend 25 authorized on-campus recitals during the school year as partial fulfillment of the course requirements in their major performing field.

- (1) *Applied Music*: A major in Applied Music shall consist of 47 semester hours in addition to the prerequisite courses, Music 111, and 112.

Required courses:

Major instrument or voice.....	16 hours
Ensemble (to be chosen from Mus. 151-154, 251-254, 161-164, 171-174, and 271-274.).....	4 hours
Mus. 113, 115, 116, 117, 118 and 225 or 226.....	12 hours

Required related courses:

Piano* .....	8 hours
Keyboard harmony .....	4 hours
Ensemble .....	3 hours
(to be chosen from Mus. 141-144, 241-244, 131-134, 231-234)	

Suggested (optional) minor to be selected in consultation with the student's adviser: Music 215, 217, 219, 225 or 226, 284, 288, 292, and 287.

\*Piano majors must elect 8 hours in another performing medium.

- (2) *General Music*: A major in General Music shall consist of 45 semester hours in addition to the prerequisite courses, Music 111 and 112.

Required courses: Mus. 113, 115, 116, 117, 118, 119, and 120; Piano, 4 semester hours (except piano students who must select another performing medium); and 12 hours, selected with the approval of the adviser from among the following: Mus. 215, 217, 219, 225 or 226, 284, 288, and 292. An additional 15 hours will be selected from the following:

Large Ensembles .....	4 hours
(to be chosen from Mus. 151-154, 161-164, 171-174, 251-254, 261-264, and 271-274).	
Small Ensembles .....	3 hours
(to be chosen from Mus. 131-134, 141-144, 231-234, 241-244).	
Applied Music (Major instrument or voice) .....	8 hours

It is anticipated that students taking this major will be desirous of securing a well-rounded cultural background and will wish to choose a minor in related fields such as Art, Literature, etc. It is possible, however, if the student desires, to select a minor in another field of music, the courses to be selected with the approval of the student's adviser.

- (3) *Music Theory*: A major in Theory shall consist of 45 semester hours, in addition to a required minor in piano and instrument.

Required courses: Music 111, 112, 113, 115, 116, 215.

Required fields: Modern Harmony, 2 hours; Counterpoint, 4 hours; Composition, 4 hours; Advanced Composition, 4 hours; Form and Analysis, 4 hours; Keyboard, 4 hours; History of Music, 4 hours; Instrumentation, 4 hours; Applied Music, 4 hours.

Required minor: Applied Music, 16 hours, to be selected in consultation with the adviser.

### Physical Sciences

- (1) *Chemistry*: A major in Chemistry shall consist of a minimum of 45 semester hours.

Required courses: Math. 106 or 107, 118; Phys. 111, 112; Chem. 111, 112, 141, 211, 212, 231, and 6 additional hours selected with the approval of the adviser. (Chem. 180 and an additional course in chemistry may be substituted for Chem. 211, 212). It is recommended that 8 hours of the courses used to satisfy the general education requirements in science and mathematics be selected from Zool. 110 or 112, Bot. 110, Geol. 151.

This major is intended for those who plan a lesser degree of specialization than is required for the Bachelor of Science degree. Students who desire chemistry as a major in the study of pre-medicine, pre-dentistry, pre-osteopathy, or technical sales, etc. may elect this program.

- (2) *Geography*: A major in Geography shall consist of 45 semester hours.

Required courses: Geog. 100, 101, 120, 200, 206, 211; Geol. 151, and 25 additional hours in geography and related subjects to be selected with the approval of the adviser.

- (3) *Geology*: A major in Geology shall consist of 45 semester hours.

Required courses: Geol. 151, 152, 211, 212; Geog. 120 and 29 additional hours in geology and related subjects to be selected with the approval of the adviser.

- (4) *Physics*: A major in Physics shall consist of a minimum of 47 semester hours.

Required courses: Chem. 111, 112; Phys. 111, 112, 113; Math. 120, 122, 123 and 15 additional hours of physics chosen with the approval of the adviser.

**Psychology**

- (1) *Psychology*: A major in Psychology shall consist of 45 semester hours in addition to the prerequisite courses Soc. 120, Psych. 100 and Biol. 100, which may be taken in partial fulfillment of the general education requirements in the social studies and sciences.

Required courses: Psych. 211, 225, 230 and 244. An additional 18 hours of psychology selected from the course offerings listed in the catalog.

Optional courses: 15 hours, selected with the approval of the adviser, from the following: Zool. 171, 172; Biol. 204; B. A. 219, 265; Ed. 232; Spch. 120, 257; Eng. 252; Math. 122; Phil. 150, 200, 202, 203, 204, 205; Soc. 204, 220, 225; Anthro. 125, 206.

**Social Studies**

- (1) *Economics*: A major in Economics shall consist of 45 semester hours.

Required courses: B. A. 130, 132, 133, 134.

Optional courses: 18 hours, selected with the approval of the adviser, from the following: B. A. 173, 217, 219, 220, 224, 226, 257, 258, 259, 262, 264, 267, 269, 270. Fifteen hours must be completed in courses related to the subject of Economics selected by the student in consultation with his adviser.

- (2) *History*: A major in History shall consist of 45 semester hours.

Required courses: Hist. 101, 102, 103, 104, 220. An additional 6 hours of lower division courses must be completed, and 10 hours of upper division courses, chosen from courses in history listed in the college catalog. Fifteen hours must be completed in courses related to the subject of history, selected by the student in consultation with his adviser.

- (3) *Political Science*: A major in Political Science shall consist of 45 semester hours.

Required courses: P. S. 101, 103, 104, 105. An additional 6 hours of lower division courses must be completed, and 12 hours of upper division courses chosen from courses in political science listed in the college catalog. Fifteen hours must be completed in courses related to the subject of political science, selected by the student in consultation with his adviser.

- (4) *Sociology*: A major in Sociology shall consist of a minimum of 45 semester hours.

Required courses: Soc. 120, 203, 204, 220, 225. An additional 15 hours of upper division courses must be completed, chosen from courses in sociology or anthropology listed in the college catalog. Fifteen hours must be completed in courses related to the subject of sociology selected by the student in consultation with his adviser.

- (5) *Sociology-Anthropology*: A major in Sociology-Anthropology shall consist of 45 semester hours.

Required courses: Soc. 120, 225, Anthro. 125, 206. An additional 18 hours of upper division courses must be completed, chosen from courses in sociology and anthropology listed in the college catalog. Fifteen hours must be completed in courses related to the subjects of sociology and anthropology, selected by the student in consultation with his adviser.

- (6) *Social Welfare*: A major in Social Welfare shall consist of 45 semester hours in addition to the prerequisite courses, Soc. 120; Phys. Sci. 100; Biol. 100; Psych. 100, which may be taken in partial fulfillment of the general education requirements in science and the social sciences.

Required courses: Hist. 105, 106; Psych. 225; Soc. 203, 205, 212, 215, 220, 225; P. S. 102. Soc. 205 and 212 may not be taken simultaneously, nor more than two sociology courses may be taken concurrently without permission of the adviser. Optional courses: 15 semester hours to be selected from the following: Hist. 109, 110, 204, 208; Psych. 114, 140, 141, 200, 226, 231, 234; B. A. 130, 132, 219; P. S. 101, 103, 200, 203; Biol. 204; Eng. 171; Anthro. 125; H. Ec. 103, 203. For students who plan to do social work in the Southwest, it is recommended that at least 16 hours of Spanish be completed, including 8 hours taken in fulfillment of the general education requirements in Foreign Languages.

- (7) *Social Studies*: A major in Social Studies shall consist of 45 semester hours selected by the student in consultation with his adviser from among the entire course offering of the social studies listed in this catalog. This major is intended to meet the individual needs of the student, particularly those interested in Pre-Law, Latin-American Studies, and the Public Service and Foreign Service training programs.

#### **Inter-Departmental**

*General Studies*: A major in general studies shall consist of 45 semester hours. This major is intended for those students, particularly members of the Armed Forces, who do not desire to concentrate in any one particular field but rather desire a broad, general education without specialization.

Required courses: 6 semester hours in advanced English composition or speech and at least 15 semester hours in one of the following fields: Foreign Language, English, Mathematics, Psychology, Social Studies.

Optional courses: 24 semester hours, selected from two or more fields, to constitute a pattern of related courses in line with the student's needs. These courses may be selected from the entire offering of the College, in consultation with the student's adviser.



## Bachelor of Science Degree Curriculum

The curriculum for the degree of Bachelor of Science is designed to give the student a broad general background in the principal fields of human knowledge and an opportunity to specialize in one specific selected area of scientific endeavor. It is divided into three parts:

### General Education

1. *Communications* ..... 8 sem. hours
  - Eng. 101, 102..... 6 sem. hours
  - Spch. 110 or 115..... 2 sem. hours

2. *Humanities* ..... 8 sem. hours

#### Option I

Eight semester hours to be selected from the following, not more than one course in a subject:

- Arch. 100; Art 100, 211, 212;
- Eng. 153, 154, 171, 172, 221, 222; For. Lang. 100; Mus. 110, 130; Phil. 100, 204..... 8 sem. hours

#### Option II

- Hum. 101, 102..... 6 sem. hours
- One course to be selected from the following:
- Art 211, 212; Eng. 153, 154, 221, 222; For. Lang. 100;
- Mus. 110; Phil. 204.....2-3 sem. hours

3. *Social Sciences*..... 9 sem. hours

#### Option I

- Hist. 101, 102, or Hist. 103, 104.... 6 sem. hours
- One course to be selected from the following:
- Anthro. 125; B.A. 115, 130;
- P.S. 101; Soc. 120..... 3 sem. hours

4. *Sciences* .....14 sem. hours

At least one course to be selected from each of the following groups:

- Group 1.—Physical Sciences—  
Phys. Sci. 100, 200; Chem. 110, 112; Geog. 100; Geol. 151; Phys. 105, 110, 112.
- Group 2.—Biological Sciences—  
Biol. 100; Bot. 110; Zool. 110, 112.
- Group 3. Mathematics—Math. 105, 106, 107, 118, 119.

5. *Health and Adjustment*..... 7 sem. hours  
     Physical Education Activity..... 2 sem. hours  
     H.E. 100 ..... 2 sem. hours  
     Psych. 100 ..... 3 sem. hours

Since the introductory courses designed to meet the general education requirements are necessarily elementary, the student is expected to take most of them in his first two years. He will then be able to devote most of his last two years to advanced work in the field of his special interest.

### Major Requirements

A major shall consist of from 45 to 55 semester hours of credit. The majors in the following list marked with an asterisk (\*) require a four-year sequence of courses. A student who elects them after the first semester of his college career must therefore expect to spend more than four years in attaining the bachelor's degree. Majors not marked with an asterisk can be completed in three years or less, and may therefore be elected at the beginning of the sophomore year with no loss of time.

Department	Major
<b>Art</b>	Applied Arts, with emphasis in Commercial Art Interior Design Fashion Design Fashion Illustration Ceramics Crafts
<b>Biological Sciences</b>	*Botany *Entomology *General Biology *Physiological Zoology *Zoology
<b>Health, Physical Education, and Recreation</b>	Health Education Physical Education Recreation
<b>Home Economics</b>	Clothing, Textiles, and Related Arts Family Life and Child Development Foods and Nutrition General Home Economics
<b>Mathematics</b>	*Mathematics
<b>Physical Sciences</b>	*Chemistry Geography Geology Physical Sciences *Physics

Psychology  
Social Studies

Psychology  
Economics  
History  
Political Science  
Sociology  
Sociology-Anthropology  
Social Studies  
Social Welfare

Inter-Departmental

General Studies

### Elective Courses

Sufficient elective courses from the entire offering of the College will be chosen by the student in order to complete the 126 semester hours required for graduation. A student may group 15 or more of his elective hours to form a minor if he desires.

### Four-year Curriculum Outline

The following is a suggested outline to indicate to the student one way in which the general education, major, and elective requirements may be worked into a four-year pattern of study. Except in unusual cases, all general education requirements should be completed during the first two years of study.

FIRST YEAR		SECOND SEMESTER	
<b>First Semester</b>		<b>Second Semester</b>	
Eng. 101 First Year English	3	Eng. 102 First Year English	3
A.S. 101 Basic Air Science or M.S. 101 Basic Military Science	1.5	A.S. 102 Basic Air Science or M.S. 102 Basic Military Science	1.5
Science or Mathematics	4	Physical Activity (P.E. 102 or 108)	1.5
Humanities or Social Science		Science or Mathematics	4
Elective	2 to 4	Humanities or Social Science	
*H.E. 100 Hygiene (women)	2	Elective	2 to 4
Major	3 to 4	Major	3 to 4
Physical Activity (P.E. 101 or 107)	.5		
	14½ to 17½		15½ to 17

SECOND YEAR		SECOND SEMESTER	
<b>First Semester</b>		<b>Second Semester</b>	
A.S. 103 Basic Air Science or M.S. 103 Basic Military Science	1.5	A.S. 104 Basic Air Science or M.S. 104 Basic Military Science	1.5
*Psychology 100	3	*Spch. 110 or 115	2
Physical Activity	.5	Physical Activity	.5
*H.E. 100 Hygiene (men)	2	Major	3 to 4
Major	3 to 4	Social Science or Humanities	
Social Science or Humanities		Elective	3
Elective	3	Other Electives to complete 15 to 17 hrs.	
Science or Math. Elective	3 to 4		
Other Electives to complete 15 to 17 hrs.			

THIRD YEAR		SECOND SEMESTER	
<b>First Semester</b>		<b>Second Semester</b>	
Social Science or Humanities		Social Science or Humanities	
Elective	3	Elective	3
Major	3 to 9	Major	3 to 9
Other Electives to complete 15 to 17 hrs.		Other Electives to complete 15 to 17 hrs.	

FOURTH YEAR		SECOND SEMESTER	
<b>First Semester</b>		<b>Second Semester</b>	
Major	3 to 9	Major	3 to 9
Other Electives to complete 15 to 17 hrs.		Other Electives to complete 15 to 17 hrs.	

### Departmental Major Requirements

#### Art

(1) *Applied Arts*: A major in Applied Arts shall consist of 50 semester hours. The following emphases are available:

(a) *Commercial Art*: Required courses in basic art training:  
Art 101, 103, 105, 106, 121, 161.

Required Courses in Commercial Art: Art 123, 221, 223, 224, 290, and art electives to complete 50 hours.

- (b) *Interior Design*: Required courses in basic art training: Art 101, 103, 105, 106, 121, 161, 213.

Required courses in interior design: Art 141, 201, 205, 241, 242, 290 and art electives to complete 50 hours.

- (c) *Fashion Design*: Required courses in basic art training: Art 101, 103, 105, 106, 121, 161.

Required courses in fashion design: H. Ec. 107, 219; Art 123, 131, 135, 136, 231, 232, 290 and art electives to complete 50 hours.

- (d) *Fashion Illustration*: Required courses in basic art training: Art 101, 103, 105, 106, 121, 161.

Required courses in fashion illustration: Art 123, 131, 135, 136, 201, 203, 235, 261, 290, and art electives to complete 50 hours.

A combined emphasis in fashion design and fashion illustration is possible, if the student desires.

- (e) *Ceramics*: Required courses in basic art training: Art 101, 105, 106, 121, 211, 213.

Required courses in ceramics: Art 151, 201, 205, 251, 252, 290, and art electives to complete 50 hours.

- (f) *Crafts*: Required courses in basic art training: Art 101, 105, 106, 121, 161, 211, 213.

Required courses in crafts: Art 117, 151, 201, 205, 217, 218, 220, 290, and art electives to complete 50 hours.

A combined emphasis in ceramics and crafts is possible, if the student desires.

### Biological Sciences

- (1) *Botany*: A major in Botany shall consist of 55 semester hours.

Required courses: Bact. 110; Biol. 204, 280; Bot. 110, 160, 171, 172, 230, 242; Chem. 110; Phys. 110; Zool. 110. An additional 9 hours with the approval of the adviser, 4 of which must be upper division.

A minor field may be selected with the approval of the major adviser. The following are suggested areas: Agronomy, Art, Chemistry, Entomology, Zoology.

- (2) *Entomology*: A major in Entomology shall consist of 55 semester hours.

Required courses: Biol. 204, 280; Bot. 110; Chem. 110; Phys. 110; Zool. 111, 112, 180, 216, 220, 222, 231. An additional 11 hours, with the approval of the adviser.

A minor field may be selected with the approval of the major adviser. The following are suggested areas: Agriculture, Botany, Chemistry, Spanish.

- (3) *General Biology*: A major in General Biology shall consist of 55 semester hours.

Required courses: Bact. 110; Biol. 204, 280; Bot. 110; Chem. 110; Phys. 110; Zool. 111, 112; Bot. or Zool. 230, 260. An additional 17 hours, 4 of which must be upper division, selected with the approval of the adviser from Biological Science course offerings listed in the catalog unless otherwise indicated in course description.

A minor field may be selected with the approval of the major adviser. The following are suggested areas: Agriculture, Art, Botany, Chemistry, English, Entomology, Geology, Physics, Psychology, Social Studies, Zoology.

- (4) *Physiological Zoology*: A major in Physiological Zoology shall consist of 49 semester hours, in addition to the prerequisite courses Phys. 111, and 112 and Math. 106 or 107 which may be taken in partial fulfillment of the general education requirements in science and mathematics.

Required courses: Bact. 110; Biol. 204, 280; Bot. 110; Zool. 111, 112, 163, 180, 231, 232, 254, 255, 260.

Required minor: Students taking this major are required to take a minor in chemistry consisting of Chem. 111, 112, 211, and 212. Those students who desire, may increase their minor by also taking Chem. 141, and 231.

Alternate minor: Students interested in medical translation or illustration should minor in languages or art instead of chemistry. Chem. 110, 180, and Physics 110 may be substituted for equivalent minor requirements listed above. Acceptable programs in these fields should be selected with the approval of the major adviser.

This major is especially designed for those who are interested in pre-medicine, pre-osteopathy, or pre-dentistry, and at the same time wish a background that will give them a basic training for physiological research.

- (5) *Zoology*: A major in Zoology shall consist of 55 semester hours.

Required courses: Biol. 204, 280; Bot. 110; Chem. 110; Phys. 110; Zool. 111, 112, 163, 230, 231, 254, 260. An additional 10 hours, with the approval of the adviser.

A minor field may be selected with the approval of the major adviser. The following are suggested areas: Animal Husbandry, Botany, Chemistry, Entomology.

#### **Health, Physical Education, and Recreation**

- (1) *Health Education*: A major in Health Education shall consist of 45 semester hours. Of these, 24 hours must be in health education or a closely related field. One half of the required 24 hours must be upper division courses.

Required courses: Bact. 110; Spch. 120; Zool. 171, 172; Psych. 225. The remaining 30 semester hours shall be chosen by the student in consultation with his adviser.

Optional courses: Psych. 211, 213, 234; Ed. 211, 226, 232, 233, 236, 250; Spch. 120, 215; Soc. 204, 205, 206; H. Ec. 101. Other related courses may be substituted with the approval of the adviser.

- (2) *Physical Education*: A major in Physical Education shall consist of 45 semester hours. Of these, 24 hours must be in physical education or a closely related field. Fifteen hours of the required 24 hours must be upper division courses.

Required courses: Zool. 171, 172; P. E. 109, 236, 4 semester hours Physical Education activity. The remaining 29 semester hours shall be chosen by the student in consultation with his adviser.

Optional courses: Zool. 164, 225; Bact. 110; Chem. 180; Phys. 113; Soc. 225; Psych. 114, 240; Mus. 111; Art 105, 117, 151; T. I. 221, 233; P. E. 195, 196, 4 semester hours activity. Other related courses may be substituted with approval of adviser.

- (3) *Recreation*: A major in Recreation shall consist of 45-50 semester hours. This major is designed to present the student with the theories and practices of the field of recreation, and to prepare him with the necessary personal skills.

Required courses: P. E. 110, 231, 233, 237, and 4 semester hours of physical education activity. The remaining 34 hours shall be selected by the student in consultation with his adviser.

Optional courses: Art 117, 151; B.A. 130, 134, 257; Ed. 160, 161, 205, 231, 233; H. Ec. 205; T. I. 121, 133; Journ. 130; P. E. 175, 191, 192, 193, 195, 196, 205, 217, 218, 219, 224, 225, 229, 234, 235, 251, 256; P. S. 103; Psych. 231, 234; Spch. 120, 230, 235, 240; Soc. 204, 209, 212, 215, 220, 225; Zool. 111, 112, 231. Other related courses may be substituted with the approval of the adviser.

#### Home Economics

- (1) *Clothing, Textiles, and Related Art*: A major in Clothing, Textiles, and Related Art shall consist of 45 semester hours. Required courses: H. Ec. 100, 101, 102, H. Ec. 104, 105 or 106, 107 or 108, 203, 209, 214, 215, and 217. An additional 18 hours will be selected by the student with the approval of her adviser from the following:

Clothing and Textiles: H. Ec. 202, 211, 213, 218, 219, 221; Art 103, 105, 106, 117, 131, 217 and 218.

Costume Design: H. Ec. 202, 211, 213, 218, 219, 221; Art 103, 105, 106, 131, 135, 231, and 232.

Interior Decorating: H. Ec. 202, 216, 219, 221, 226; Arch. 100, 130; Art 101, 106, 141, 241; T. I. 105, 136, 236, 284, and 289.

- (2) *Family Life and Child Development*: A major in Family Life and Child Development shall consist of 45 semester hours. Required courses: H. Ec. 100, 101, 102, 104, 105, 107 or 108, 203, 209, 214, 215 and 217. An additional 18 hours to be chosen with the approval of the adviser from the following: H. Ec. 104, 202, 206, 207, 210, 233, B.A. 130; Ed. 160, 161, 205; Psych. 215, 225, 231, 240; Soc. 203, 204, 225; Zool. 171 and 172.
- (3) *Foods and Nutrition*: A major in Foods and Nutrition shall consist of 45 semester hours.  
Required courses: H. Ec. 100, 101, 102, 104, 105, 107 or 108, 203, 209, 214, 215, 217. An additional 18 hours to be chosen with the approval of the adviser from the following: H. Ec. 202, 205, 206, 210, 212, 225, 243; Bact. 110; Chem. 180, 280, 281; Phys. 110; Zool. 171 and 172.  
By careful selection, a student may, with the exception of two courses, meet the requirements set up by the American Dietetics Association for entrance to dietetic internship.
- (4) *General Home Economics*: A major in General Home Economics shall consist of 45 semester hours.  
Required courses: H. Ec. 100, 101, 102, 104, 105, 108, 203, 209, 214, 215, 217. An additional 18 hours to be chosen with the approval of the adviser from the following: H. Ec. 104, 202, 205, 206, 207, 210, 211, 212, 213, 216, 218, 219, 221, 225, 226, 233, and 243.

#### Mathematics

- (1) *Mathematics*: A major in Mathematics shall consist of 45 semester hours.  
Required courses: Math. 119 (or Math. 106, 107, 118), 120, 122, 123, 221, 222, and three or more additional upper division courses selected by the student with the approval of his adviser. At least one course in Mathematics must be taken each semester. The hours needed to complete the major will be selected by the student with the approval of his adviser, from courses in the physical sciences. In addition, it is strongly recommended that the student acquire a reading knowledge of both French and German.

#### Physical Sciences

- (1) *Chemistry*: A major in Chemistry shall consist of a minimum of 48 semester hours.  
Required courses: Phys. 111-112 or 121-122; Chem. 111, 112, 141, 142, 211, 212, 251, 252. Additional courses to complete 48 hours to be selected from Chem. 150, 215, 260, 271, 272, 276, 280, 281.  
The student is also required to complete a minor in mathematics consisting of Math. 119 or 107, 118, 120, 122, 123. A reading knowledge of German, French, or Russian is re-

quired for recommendation to graduate school. This requirement may be satisfied by taking one year of one of these foreign languages.

This major is offered for students preparing for professional work in industrial or research laboratories, or for graduate study.

- (2) *Geography*: A major in Geography shall consist of a minimum of 45 semester hours.

Required courses: Geog. 100, 101, 120, 200, 206, 209, 211, 275, and Geol. 151, 152. Additional courses to complete 45 hours, to be selected with the approval of the adviser.

- (3) *Geology*: A major in Geology shall consist of 55 semester hours.

Required courses: Chem. 111, 112; Math. 106 or 107, 118; Phys. 111, 112, all of which satisfy the science and mathematics general education requirements; T. I. 105, 145; Geol. 151, 152, 211, 212, 215, 220; Geog. 120, 200; and the additional hours in geology or geography to be selected with the approval of the adviser.

- (4) *Physics*: A major in Physics shall consist of a minimum of 48 semester hours.

Eight hours selected from Zool. 110, Bot. 110, or Geol. 151, plus prerequisite Math. 119 or its equivalent which may be used to satisfy the general education requirements in science and mathematics.

Required courses: Math. 120, 122, 123, 221; Phys. 111-112 or 121-122, 3 hours of Phys. 250, and 21 additional hours in physics selected from the following: Phys. 215, 219, 220, 221, 222, 231, 232, 241, and 242. The student is urged to take a minor in chemistry to include Chem. 111, 112, and 141.

- (5) *Physical Sciences*: A major in the Physical Sciences shall consist of 45 semester hours selected from the course offering of the department. A student must complete a minimum of 24 hours in one field of the physical sciences and not less than 15 hours in related subjects in consultation with the adviser. This major may be chosen by students preparing for careers in medicine, dentistry, and for those interested in Civil Service and national defense positions.

### **Psychology**

- (1) *Psychology*: A major in Psychology shall consist of 45 semester hours in addition to the prerequisite courses Soc. 120, Psych. 100, and Biol. 100, which may be taken in partial fulfillment of the general education requirements in the social studies and sciences.

Required courses: Psych. 211, 225, 230 and 244. An additional 18 hours of psychology selected from the course offerings listed in the catalog.



Optional courses: 15 hours, selected with the approval of the adviser, from the following: Zool. 171, 172; Biol. 204; B.A. 219, 265; Ed. 232; Spch. 120, 257; Eng. 252; Math. 122; Phil. 150, 200, 202, 203, 204, 205; Soc. 125, 204, 206, 220, 225.

### Social Studies

- (1) *Economics*: A major in Economics shall consist of 45 semester hours.

Required courses: B.A. 130, 132, 133, 134.

Optional courses: 18 hours, selected with the approval of the adviser, from the following: B.A. 173, 217, 219, 220, 224, 226, 257, 258, 259, 262, 264, 267, 269, 270. An additional 15 hours must be completed in courses related to the subject of economics selected by the student in consultation with his adviser.

- (2) *History*: A major in History shall consist of 45 semester hours.

Required courses: Hist. 101, 102, 103, 104, 220. An additional 6 hours of lower division courses must be completed and 10 hours of upper division courses chosen from courses in history listed in the college catalog. An additional 15 hours must be completed in courses related to the subject of history, selected by the student in consultation with his adviser.

- (3) *Political Science*: A major in Political Science shall consist of 45 semester hours.

Required courses: P. S. 101, 103, 104, 105. An additional 6 hours of lower division courses must be completed and 12 hours of upper division courses chosen from courses in political science listed in the catalog. An additional 15 hours must be completed in courses related to the subject of political science, selected by the student in consultation with his adviser.

- (4) *Sociology*: A major in Sociology shall consist of a minimum of 45 semester hours.

Required courses: Soc. 120, 203, 204, 220, 225. An additional 15 hours of upper division courses must be completed, chosen from courses in sociology or anthropology listed in the college catalog. An additional 15 hours must be completed in courses related to the subject of sociology selected by the student in consultation with his adviser.

- (5) *Sociology-Anthropology*: A major in Sociology-Anthropology shall consist of 45 semester hours.

Required courses: Soc. 120, 225, Anthro. 124, 206. An additional 18 hours of upper division courses must be completed, chosen from courses in sociology and anthropology listed in the college catalog. An additional 15 hours must be completed in courses related to the subjects of sociology and anthropology, selected by the student in consultation with the adviser.

- (6) *Social Welfare*: A major in Social Welfare shall consist of 45 semester hours in addition to the prerequisite courses, Soc. 120; Phys. Sci. 100; Biol. 100; Psych. 100, which may be taken in partial fulfillment of the general education requirements in Science and the Social Sciences.

Required courses: Hist. 105, 106; Psych. 225; Soc. 203, 205, 212, 215, 220, 225; P. S. 102. Soc. 205 and 212 may not be taken simultaneously, nor more than two sociology courses may be taken concurrently without permission from the adviser. Optional courses: 15 semester hours to be selected from the following: Hist. 109, 110, 204, 208; Psych. 114, 140, 141, 200, 226, 231, 234; B. A. 130, 132, 219; P. S. 101, 103, 200, 203; Biol. 204; Eng. 171; Soc. 125; H. Ec. 103, 203. For students who plan to do social work in the Southwest, it is recommended that at least 16 hours of Spanish be completed.

- (7) *Social Studies*: A major in Social Studies shall consist of 45 semester hours selected by the student in consultation with his adviser from among the entire course offering of the social studies as listed in this catalog. This major is intended to meet the individual needs of the student, particularly those interested in pre-law, Latin-American Studies, and the Public Service and Foreign Service training programs.

#### Inter-Departmental

*General Studies*: A major in general studies shall consist of 45 semester hours. This major is intended for those students, particularly members of the armed forces, who do not desire to concentrate in any one particular field but rather desire a broad, general education without specialization.

Required courses: 6 semester hours in advanced English composition or speech and at least 15 semester hours in one of the following fields: Foreign Language, English, Mathematics, Psychology, Social Studies. Optional courses: 24 semester hours, selected from two or more fields, to constitute a pattern of related courses in line with the student's needs. These courses may be selected from the entire offering of the College, in consultation with the student's adviser.

## Special Programs

### Pre-Optometry

The general requirements for entrance to most schools of optometry include a total of sixty (60) hours, grouped as follows: English Composition, 6 hours; Chemistry, 8-9 hours; Biological Sciences, 8 hours; Psychology 3-6 hours; the remaining hours being chosen from Social Studies and Humanities. It is strongly urged that a prospective optometry student obtain a catalog from the school

he plans to enter, and that he follow their specific courses. The following courses taught at Arizona State College at Tempe will meet the entrance requirements of most schools of optometry:

FIRST YEAR		SECOND YEAR	
English 101-102 _____	8	Physics 111-112 _____	8
Mathematics 107 and 118 _____	6	Zoology 111-112 _____	8
Chemistry 111-112 _____	9	Mathematics 120 _____	4
Psychology 100 and 114 _____	6	Physical Education _____	1
Physical Education _____	1	Speech _____	2
Electives _____	2	Social Studies and Humanities _____	7
		Electives _____	7
			<hr/> 60

### Pre-Pharmacy

The requirements for admission to a college of pharmacy is limited to one year of pre-pharmacy training. The pre-pharmacy student should obtain a copy of the catalog of the college of pharmacy that he plans to attend and work out his course of study under the guidance of his adviser. The following program will meet the entrance requirements of most schools of pharmacy. The student should have an average of 2.5 or better in this work.

Eng. 101 First Year English _____	3	Eng. 102 First Year English _____	3
Chem. 111 General Chemistry _____	4	Chem. 112 General Chemistry and Qualitative Analysis _____	5
Zool. 110 Animal Biology _____	4	Bot. 110 General Botany _____	4
Math. 106 or 107 Algebra _____	3	Math. 118 Trigonometry _____	3
M.S. 101 Basic Military Science or A.S. 101 Basic Air Science _____	1.5	M.S. 102 Basic Military Science or A.S. 102 Basic Air Science _____	1.5
P. E. 107 Activity _____	0.6	P. E. 108 Activity _____	0.5
	<hr/> 18		<hr/> 17

### Pre-Ministerial

Students preparing to enter a Theological Seminary for advanced training leading to a degree in theology, should secure the catalog of the institution which they hope to enter and be guided by its recommendations during their preliminary training. Although no required course of preliminary training is offered at Arizona State College, it is suggested that the student follow the curriculum leading to the degree of Bachelor of Arts with a major in Social Studies (including history, sociology, and economics) and minors in English literature and psychology.

It is suggested that the student take the following courses:

Latin		Social Studies	
Lat. 101 Elem. Latin _____	4	Hist 103 U.S. through Civil War _____	3
Lat. 102 Elem. Latin _____	4	Hist 104 U.S. since Civil War _____	3
Lat. 103 Inter. Latin _____	4	Hist. 208 American Cultural History _____	2
Lat. 104 Inter. Latin _____	4	Hist. 209 Amer. Cultural History since 1860 _____	2
	<hr/> 16	P.S. 200 Constitutional Government _____	3
		Bus. Ad. 130 Intro. to Economics _____	3
		Bus. Ad. 132 Principles of Economics _____	3
		Bus. Ad. 219 Labor Relations _____	3
		Soc. 120 Sociology _____	3
		Soc. 204 Urban Sociology _____	3
		Soc. 215 Community Organization _____	3
		Soc. 212 Intro. to Social Work _____	3
			<hr/> 34
		English	
		Eng. 151 Survey of English Lit. _____	3
		Eng. 152 Survey of English Lit. _____	3
		Eng. 153 World Literature _____	3
		Literature electives _____	6
	<hr/> 23		<hr/> 18

Many of the above courses will serve to satisfy the student's requirements under the general education requirements of the Bachelor of Arts degree.

### Pre-Law

The requirements for admission to law schools vary from a minimum of three years of pre-legal college work to a four-year program leading to a bachelor's degree. The pre-law student should obtain a copy of the catalog of the law school that he plans to attend and plan his course of study under the guidance of his adviser.

The Association of American Law Schools has indicated that pre-law education should provide the student with: (a) Ability in the comprehension and expression of words; (b) The critical understanding of human institutions and values with which the law deals; (c) Creative power in thinking. The Association does not recommend any particular courses or sequence of courses for pre-legal training.

The leading law schools prefer that their students shall have completed four years of college work before entrance. Students planning to enter a law school requiring a bachelor's degree for entrance may register within any of the major fields in the Arts and Sciences curriculums, or in the Business Administration Curriculum, paying due regard to the recommendations in the preceding paragraph. The student should check carefully in the catalog of the law school which he hopes to attend in order to determine the entrance requirements of that school.

Some law schools admit students upon completion of three years of college work. Students who have completed 98 semester hours (six semesters) at Arizona State College at Tempe with a scholarship index of 2.0 or above in all hours attempted, and have satisfied the general education and major requirements of the College of Liberal Arts for the degree of Bachelor of Arts or Bachelor of Science, may obtain the degree after completing a full year's work in an accredited school of law with an average grade of "C" or above, providing, before entering the school of law, the student secures a statement in writing from the Dean of the College of Liberal Arts giving senior-in-absentia privileges. In order to receive the degree in this manner, the student must, at the end of his first year in law school, have completed a total of 126 semester hours of college credit and present a signed testimonial from the Dean of the Law School to the Registrar at Arizona State College, which shall include a statement of courses taken, grades achieved, and a recommendation that the degree be granted.

Students planning a pre-law program should consult the pre-law adviser and work out a program of studies which will satisfy the entrance requirements of the law school or schools in which he is interested and which will meet the requirements for the bachelor's degree at Arizona State College as indicated above.

If the student plans to complete his bachelor's degree before entering the law school, he should select a major not later than the beginning of his sophomore year, and, in consultation with his ad-

viser, work out a program of studies which will satisfy the entrance requirements of the law school or schools in which he is interested and which will meet the requirements for the bachelor's degree at Arizona State College.

### Pre-Dental, Pre-Medical, and Pre-Osteopathy

While schools of medicine, osteopathy, and dentistry indicate in their catalog that students may occasionally be admitted with only two or three years of pre-medical training, the competition for admittance is so great that few students can hope for admission unless they have completed the work for their bachelor's degree with a scholarship index of at least 3.0.

The requirements for entrance into schools of medicine, dentistry, and osteopathy are very similar. The following analysis of admission requirements to medical schools, prepared by the Association of American Medical Colleges, is *apropos*. "Medical schools differ in the specific subjects they require of their applicants. All medical schools require some college work in chemistry, biology, and with one exception, physics. More work is specified in chemistry than any other single subject. Courses in both general and, with one exception, organic chemistry are required by all of the medical schools; quantitative analysis is specified by roughly half, and qualitative analysis and physical chemistry are specified by less than a quarter of the schools. Half of the medical schools require that the total number of semester hours spent in these chemistry courses be 16 or more, while the comparable figure for both biology and physics is 8 semester hours. Required courses in biology, other than general biology and zoology, include comparative anatomy and embryology, specified by approximately a quarter of the schools; and anatomy, genetics, micro-technique, etc., listed by only one or two schools. Nineteen of the medical schools require one or more courses in mathematics. English is a general requirement of almost all of the schools, and about half of them specify some knowledge of a foreign language. Only 18 of the medical schools require any work in the social sciences, although most of the medical schools believe such work helps to round out the liberal arts background of applicants. The total semester hours of required courses in all fields varies from 27 specified by Cornell to 84 hours for Alabama."

Approximately seventy-five percent of the professional schools of the United States require less than forty semester hours in science and mathematics. While additional work in these fields may be taken, the professional schools generally suggest that the prospective student secure a broad, general education, postponing his professional training until he enrolls in a professional school. They generally recommend study in English, the social sciences, psychology, and other subjects of interest to the student.

At the present time, many more students qualify for entrance into the professional schools than can be admitted. It is advised that those who plan medical careers select their major and electives in such a way as to prepare for a possible alternate career in the event









degree. The fourth year of internship, 12 months, is to be taken at GOOD SAMARITAN, MEMORIAL or ST. JOSEPH'S HOSPITAL in Phoenix. Other approved hospitals may be substituted with the approval of the adviser in medical technology, and the Admissions and Standards Committee. This program is approved by the American Medical Association. Through the W. K. Kellogg Foundation Loan Fund, worthy students in medical technology may obtain loans at an interest rate not to exceed 2.5%.

Besides meeting the general education requirements, the student must complete the following: Chem. 111, 112, 141, 180 (or 211, 212), 280, 281; Phys. 111, 112; Math. 106, 118; Zool. 111, 112, 163, 172, 232; Bact. 110. These courses also meet the general education group requirements in science and mathematics for the B.S. degree. During the fourth year, the following courses must be completed at the hospital: Med. Tech. 225, 240, 250, 265, 271, 273, 282, 284, 286, 288. These courses are completed during the senior year as a unit, and may not be taken separately.

## FIRST YEAR

First Semester	Hours	Second Semester	Hours
Eng. 101 First Year English.....	3	Eng. 102 First Year English.....	3
Chem. 111 Gen. Chem. ....	4	Chem. 112 General Chemistry.....	4
Zool. 111 General Zoology.....	4	Zool. 112 General Zoology.....	4
*Soc. 120 Sociology.....	3	*Psych. 100 Elementary Psychology.....	3
H. E. 100 Hygiene.....	2	P.E. 102 Basic P.E. (women).....	0.5
P.E. 101 Basic P.E. (women).....	0.5	P.E. 108 Sports Survey (men).....	0.5
P.E. 107 Sports Survey (men).....	0.5	M.S. 102 Basic Military Science or	
M.S. 101 Basic Military Science or		A.S. 102 Basic Air Science.....	1.5
A.S. 101 Basic Air Science.....	1.5	Electives.....	0 or 1.5
	16.5 or 18		17

\*May be taken either semester.

## SECOND YEAR

Chem. 141 Quantitative Analysis.....	4	Chem. 180 Organic Chemistry.....	4
Zool. 103 Comparative Anatomy.....	4	Bact. 110 Introd. to Bacteriology.....	4
Social Science elective.....	3	Humanities elective.....	3
Math. 106.....	3	Math. 118.....	3
P.E. Activity.....	0.5	P.E. Activity.....	0.5
M.S. 103 Basic Military Science or		M.S. 104 Basic Military Science or	
A.S. 103 Basic Air Science.....	1.5	A.S. 104 Basic Air Science.....	1.5
	16		16

## THIRD YEAR

Phys. 111 General Physics.....	4	Phys. 112 General Physics.....	4
Zool. 232 Parasitology.....	4	Chem. 280 Biochemistry.....	3
Zool. 255 Human Mechanism.....	4	Zool. 254 Embryology.....	2
Humanities elective.....	3	Social Science elective.....	4
	15		15

## FOURTH YEAR

Med. Tech. 240 Laboratory Techniques	4	Med. Tech. 250 Histology.....	4
Med. Tech. 225 Pathogenic		Med. Tech. 265 Serology.....	2
Bacteriology.....	4	Med. Tech. 271 Parasitology.....	2
Med. Tech. 282 Biochemistry.....	4	Med. Tech. 284 Blood Chemistry.....	4
Med. Tech. 273 Hematology.....	4	Med. Tech. 285 Urinalysis.....	2
	16	Med. Tech. 288 Chemistry of Digestion	2
			16

## Nursing and Pre-Nursing

The college offers a one-year and a two-year curriculum for students planning to go into nursing.

## ONE YEAR PRE-NURSING CURRICULUM

Some schools of nursing require one year of college and three years of nursing school.

First Semester		Hours	Second Semester		Hours
Eng. 101 First Year English	3		Eng. 102 First Year English	3	
*Soc. 120 Sociology	3		*Psych. 100 Elementary Psychology	3	
H. Ec. 101 Elementary Nutrition	2		Biol. 100 Introd. to Biol. Sciences	4	
Chem. 110 Introductory Chemistry	4		Mathematics Elective	3	
Zool. 171 Human Anatomy	3		Zool. 172 Human Physiology	3	
P. E. 101 Basic P. E. (women)	0.5		P. E. 102 Basic P. E. (women)	0.5	
		15.5			16.5

\*May be taken either semester.

## TWO YEAR PRE-NURSING CURRICULUM

This curriculum is designed for nursing schools that require two years of general college education. The selection of electives should be made after consulting the catalog of the nursing school that the student plans to attend, and the pre-nursing adviser.

FIRST YEAR					
First Semester		Hours	Second Semester		Hours
Eng. 101 First Year English	3		Eng. 102 First Year English	3	
*Soc. 120 Sociology	3		*Psych. 100 Elementary Psychology	3	
Chem. 110 Introductory Chemistry	4		Chem. 180 Organic Chemistry	4	
H. Ec. 101 Elementary Nutrition	2		*Biol. 100 Introd. to Biol. Sciences	4	
Mathematics Elective	3		P. E. 102 Basic P. E. (women)	0.5	
P. E. 101 Basic P. E. (women)	0.5		Elective	3	
		15.5			17.5

## SECOND YEAR

*Eng. 171 Introduction to Literature	3		*Speech 110 Elements of Speech	2	
Zool. 171 Human Anatomy	3		Zool. 172 Human Physiology	3	
Social Science elective	3		Social Science elective	3	
H. Ec. 105 Applied Food Principles	3		Electives	7	
Bact. 110 General Bacteriology	4		Physical Education activity (women)	0.5	
Physical Education activity (women)	0.5				15.5
		16.5			

\* May be taken either semester.

## DEGREE CURRICULUM FOR NURSING

A degree curriculum for nurses is offered which combines a general college program and a basic clinical course in nursing. This curriculum is designed to meet the needs of two groups of students: (1) those who wish to pursue a program of training to be taken jointly at the College and at the Good Samaritan Hospital, Phoenix, leading to the Certificate of Registered Nurse in Arizona and to the Bachelor of Science degree, and (2) those who hold the Certificate of Registered Nurse in Arizona and who wish to complete, in addition, a program of college work that will lead to the Bachelor of Science degree.

## I. FIVE YEAR PROGRAM FOR NURSING

Students without nursing training will meet the regular college admission requirements and will take the general college courses dur-

ing the first year as outlined in the following curriculum. The basic training in professional nursing will be taken during the next three years at the Good Samaritan Hospital. As a part of the nursing program, students must take the courses that are outlined in the second year of the curriculum given below.

As a prerequisite for graduation, the student must pass the Arizona State Board examinations in nursing. Upon passing the State Board Examination, the student must file with the Registrar and Director of Admissions, a statement from the Secretary of the State Board that the student has been granted registration and holds a currently valid license to practice nursing in Arizona. Upon satisfactory completion of the requirements of a registered nurse in Arizona, and those of the college for this curriculum, the student is eligible for graduation with the Bachelor of Science degree.

Before beginning the fifth year of the degree program in nursing, the student is advised to consult with the nursing adviser at the college, and select courses that will best meet her interest and needs. This work may be selected from the following fields, or combinations of them: English, Education and Sociology, Home Economics, Foreign Languages, Physical Education, Psychology, and Science.

#### FIRST YEAR

(At Arizona State College at Tempe or other accredited college)

First Semester		Hours	Second Semester		Hours
Eng. 101 First Year English	_____	3	Eng. 102 First Year English	_____	3
*Speech 110 Elements of Speech	_____	2	*Eng. 171 Intro. to Literature	_____	3
Math. 105 Basic Mathematics	_____	3	*Biol. 100 Intro. to Biological Sciences	_____	4
P. E. 101 Basic P. E. (women)	_____	0.5	P. E. 102 Basic P. E. (women)	_____	0.5
Social Studies Elective	_____	3	Humanities Elective	_____	2
*Chem. 110 Introductory Chemistry	_____	4	Social Studies Elective	_____	3
		15.5			15.5

\* May be taken either semester.

#### SECOND YEAR

Good Samaritan Hospital School of Nursing.

#### THIRD YEAR

Good Samaritan Hospital School of Nursing

#### FOURTH YEAR

Good Samaritan Hospital School of Nursing

#### FIFTH YEAR

(At Arizona State College at Tempe)

Soc. 212 Intro. to Social Work	_____	3	Chem. 180 Elem. Organic Chem.	_____	4
Psych. 208 Mental Hygiene & Abnormal Psychology	_____	3	Soc. 220 Modern Social Problems	_____	3
Psych. 225 Social Psychology	_____	3	Psych. 234 Child Psychology	_____	3
Humanities Elective	_____	3	Restricted electives	_____	7
Restricted Electives	_____	5			
		17			17

#### II. DEGREE PROGRAM FOR REGISTERED NURSES

Graduates of accredited three-year schools for nurses will, in addition to meeting the regular admission requirements, file with the Registrar and Director of Admissions official transcripts of all work done in high school, college, and nursing schools together with a statement from the Secretary of the State Board that the nurse has

been granted registration and holds a currently valid license to practice nursing in Arizona. Upon acceptance of those credentials, advanced standing credit, not to exceed 46 hours, will be allowed for work completed in an approved school of nursing.

To meet the requirements for the Bachelor of Science degree, nurses admitted to this curriculum will be required to complete not less than 80 semester hours of credit to be distributed as follows:

Eng. 101, 102 First Year English .....	6 hours
Spch. 110 Elements of Speech .....	2 hours
Humanities electives .....	6 hours
Psych. 100 Elements of Psychology .....	3 hours
Social Science electives .....	6 hours
Science .....	16 hours
Biol. 100 Intro. to Biological Sciences .....	4 hours
Bact. 110 Intro. to Bacteriology .....	4 hours
Chem. 110 Elementary Chemistry .....	4 hours
Chem. 180 Elementary Organic Chemistry ..	4 hours
Restricted electives .....	41 hours
Total—not less than .....	80 hours

The restricted electives are to be chosen under the guidance of the nursing adviser. The selection of courses should be made so that they lead to a definite field of interest in the profession of nursing such as nursing education, public health, etc. At least 24 semester hours of the restricted courses shall be upper division. Students enrolled are not required to meet the physical education and hygiene requirement for the Bachelor of Science degree.

# College of Education

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## Purpose

The purpose of the College of Education is to promote interest in the teaching profession and to prepare students to carry on effective work as teachers and administrators in the public schools. To accomplish this end the aim is to acquaint the student with human nature, educational subject matter, methods of teaching and administration, and methods of social reconstruction commensurate with democratic social theory.

It is the belief of those concerned with teacher education that those who work with the children in our schools should be educated as well as trained. To this end a wide array of cultural and general educational background is provided. There is no conflict in the approach to develop a person who lives wholesomely and happily as well as one who realizes his greatest potentialities, both professionally and in other phases of living. The College is dedicated to these purposes as well as to a program of training leading to the degrees and certificates listed below.

## Organization

The courses of instruction offered by the College of Education are organized into groups so that a well related sequence is established for important subject fields. These groups include Childhood Education, Secondary Curriculum and Methods, School Administration and Supervision, Audio Visual Education, Guidance, Social Foundations, Special Education, and Basic Education. These subject fields make for better organization in selecting courses to meet requirements for the various teacher education curriculums.

## Degrees

### Bachelor of Arts in Education Degree

The Bachelor of Arts in Education Degree is awarded after successful completion of a four year curriculum in teacher education. A minimum of 126 semester hours of work is required for each of the curriculums. A balanced program of activities for this degree provides work in well recognized basic areas.

### Master of Arts in Education Degree

A graduate program consisting of a minimum of 30 semester hours of properly arranged work leads to the degree of Master of Arts in Education. Students who complete any of the teacher education curriculums at Arizona State College at Tempe, may arrange for a

program of studies leading to the degree of Master of Arts in Education. This degree is also available to graduates of other recognized institutions of higher learning by meeting the prescribed requirements. For specific reference to this program, see pages 170-171 of this catalog.

### Education Specialist Degree

The degree, Education Specialist, is awarded for satisfactory completion of the Specialist program of graduate studies. For specific reference to this degree, see page 172 of this catalog.

### Doctor of Education Degree

The degree, Doctor of Education, is awarded for satisfactory completion of the Doctoral program of graduate studies. For specific reference to this degree, see pages 172-174 of this catalog.

## Certification

### Arizona Certification

The State Board of Education issues the following types of certificates, preparation for which may be obtained at the Arizona State College at Tempe: (1) Kindergarten Primary, (2) Elementary, (3) Pre-Secondary, (4) Secondary, (5) Administrative, (6) Special in Home Economics, (7) Vocational in Home Economics. For complete details concerning certification, students should refer to the Rules and Regulations published by the State Board of Education, or consult with the Director of Teacher Education.

The four-year Kindergarten-Primary and Elementary Teacher Education curriculums lead directly to the corresponding Arizona teaching certificates. The Pre Secondary certificate (good for four years) may be obtained by completing the four-year Secondary Teacher Education Curriculum, and an additional six semester hours of graduate credit. The five-year Secondary Teacher Education Curriculum leading to the Master of Arts in Education degree encompasses all of the requirements for the full secondary certificate. The administrative certificate (either elementary or secondary) may be obtained by completing any of the teacher education curriculums and an appropriately chosen post-graduate program including master's degree program with at least 15 semester hours of education taken subsequent to the bachelor's degree. The special certificate in Home Economics may be obtained by completing the four year Secondary Teacher Education Curriculum with the appropriate major teaching field. The Vocational certificate in Home Economics may be achieved by following the Secondary Teacher Education Curriculum with a major teaching field in Home Economics, which contains specific course requirements.

In some instances, transfer students or others not enrolled in a teacher education curriculum may meet certification requirements through education courses not listed in teacher education curriculums.

In each case, a teacher education adviser should be consulted before the course is selected. Information regarding certification requirements may be obtained from the State Superintendent of Public Instruction.

## Directed Teaching

### Admission

Before admission, all candidates for directed teaching must meet the following requirements: (1) Junior or senior standing. (2) A cumulative scholarship index of 1.75 or better. (3) Have credit in all the required courses of the first two years of a teacher education curriculum being followed. (4) Those pursuing the *Kindergarten Primary Curriculum* must have credit in Children's Literature, Story Telling, Construction Activities, Plays and Games for the Kindergarten-Primary School, Kindergarten-Primary Curriculum, Science in the Elementary School, and Reading and Language Arts. Those taking the *Elementary Curriculum* must have credit in Educational Psychology, Language Arts, and Elementary Curriculum. (Curriculum may be taken concurrently with directed teaching.) Those taking the *Secondary Curriculum* must have credit in Educational Psychology, Secondary School, and Methods of Teaching in Secondary Schools. (Secondary Methods may be taken concurrently with directed teaching.) Modification of course sequences may be made for irregular and transfer students by the Director of Teacher Education.

### Requirements

Ordinarily, students who are candidates for the bachelor's degree and elementary certification teach in the cooperating schools for one-half day for one semester either for the first or second half of the third or fourth year. Students who are preparing for secondary certification teach for one-quarter day for one full semester in either the first or second half of the fourth year. Students whose programs permit them to devote their full time to directed teaching spend all day in the cooperating schools and receive one semester hour of credit per week of successful directed teaching. Regularly scheduled conferences at the College are held during the directed teaching period. The student's load is limited to sixteen semester hours during the semester in which he is teaching. Student teachers are not permitted to take part in activities that interfere with their directed teaching, conferences, or other activities related to teaching in the cooperating school.

Effective September 1956, students must count full time or part time employment as part of their load while they are doing directed teaching. Each five hours of employment per week will be considered equivalent to a load of one semester hour in calculating the total 16 semester hour load permitted during the semester in which the student is teaching. It is recommended that students plan not to be employed during the directed teaching period.

## Training Schools Available

The College has available the following schools for the training of student teachers: The Ira D. Payne Training School, Tempe Elementary School, The Rural School, Phoenix Grade Schools, Phoenix Union High Schools, Mesa Schools, Glendale Elementary Schools, Glendale High School, and others. Students are assigned to schools other than those listed above only on special request.

Each of these schools presents its own particular type of organization and problems so that the student may receive training in any type of work desired from the kindergarten through the high school. All of these are regular public schools; therefore, students obtain their training under actual classroom conditions of the public school. Each student teacher is under direct guidance of a cooperating teacher and the Director of Teacher Education.

## Waiver

Students who have been employed as regular teachers in public, parochial, or Indian schools, may apply to the Director of Teacher Education, College of Education, for waiver of the Directed Teaching requirement. Waiver of Directed Teaching is finally granted by the Admissions and Standards Committee upon recommendation of the Director of Teacher Education. Waiver of this requirement in no way changes the total number of semester hours required for graduation or for establishing residence.

Regular teaching experience of two years' duration within the past five years will be considered sufficient to waive the total directed teaching requirement.

Regular teaching experience of one year's duration within the past five years will be considered sufficient to waive one-half the directed teaching requirement.

Regular teaching experience of two or more years' duration prior to the past five years will be considered sufficient to waive one-half the directed teaching requirement.

# Bachelor of Arts in Education Degree

## Curriculums

### General Education

The General Education requirements under each of the teacher education curriculums include the following:

1. <i>Communications</i> .....	8 sem. hours
Eng. 101, 102 .....	6 sem. hours
Spch. 110 .....	2 sem. hours
2. <i>Humanities</i> .....	8 sem. hours



**Option I**

Eight semester hours to be selected from the following, not more than one course in a subject ..... 8 sem. hours  
 Arch. 100; Art 100, 211, 212;  
 Eng. 153, 154, 171, 172, 221, 222; For. Lang. 100; Mus. 110, 130; Phil. 100, 204.

**Option II**

Hum. 101, 102 ..... 6 sem. hours  
 One course to be selected from the following: ..... 2-3 sem. hours  
 Art 211, 212; Eng. 153, 154, 221, 222; For. Lang. 100;  
 Mus. 110; Phil. 204.

3. *Social Sciences* ..... 9 sem. hours

**Option I**

Hist. 101, 102 or Hist. 103, 104... 6 sem. hours  
 One course to be selected from the following:  
 Anthro. 125; B.A. 115, 130;  
 P.S. 101, \*200; Soc. 120..... 3 sem. hours

\*Note: Only students under the Secondary Curriculum may select P.S. 200.

**Option II (Not offered 1955-56)**

Year Course—Introduction to the Social Sciences ..... 6 sem. hours  
 One course to be selected from the following:  
 Hist. 101, 102, 103, 104..... 3 sem. hours

4. *Sciences* ..... 11 sem. hours

At least one course to be selected from each of Groups 1 and 2.

Group 1.—Physical Sciences—  
 Phys. Sci. 100, 200; Chem. 110, 112; Geog. 100; Geol. 151;  
 Phys. 105, 110, 112.

Group 2.—Biological Sciences—  
 Biol. 100; Bot. 110; Zool. 110, 112.

Group 3. Mathematics—  
 Math. 105, 106, 107, 118, 119.

5. *Health and Adjustment* ..... 7 sem. hours

Physical Education Activity..... 2 sem. hours  
 H.E. 100 ..... 2 sem. hours  
 Psych. 100 ..... 3 sem. hours

## Kindergarten-Primary Curriculum

The kindergarten-primary curriculum offers specialized training for students who wish to teach young children. The courses are designed to give the student a better understanding of young children and of their total personality development during the first years of their school adjustment. Special emphasis is given to the growth and development of the child and how he learns. There is a wide demand every year for teachers who complete the kindergarten-primary curriculum.

This curriculum leads to the degree of Bachelor of Arts in Education and to certification for teaching in the kindergarten and grades one, two and three.

FRESHMAN YEAR					
First Semester		Hours	Second Semester		Hours
Eng. 101 First Year English	3		Eng. 102 First Year English	3	
*Phys. Sci. 100 Physical Universe	4		*Biol. 100 Introd. to Biol. Sciences	4	
*Psych. 100 Elementary Psychology	3		*Soc. 120 Sociology	3	
P. E. 101 Basic P. E. (women)	0.5		P. E. 102 Basic P. E. (women)	0.5	
P. E. 107 Sports Survey (men)	0.5		P. E. 105 Sports Survey (men)	0.5	
M.S. 101 Basic Military Science or A. S. 101 Basic Air Science	1.5		M.S. 102 Basic Military Science or A. S. 102 Basic Air Science	1.5	
Humanities	4		Humanities	4	
Electives	0 to 1.5		Electives	0 to 1.5	
		16			18
SOPHOMORE YEAR					
*Speech 110 Elements of Speech	2		*H. E. 100 Hygiene	2	
Psych. 140. Growth and Development	2		Hist. 102 Western Civilization or Hist. 104 U. S. History	3	
Hist. 101 Western Civilization or Hist. 103 U. S. History	3		*Ed 115 Orientation to Education	2	
Mus. 125 Music Fundamentals for Kdgn.-Elem. Teachers	2		P. E. Activity (men), (women)	0.5	
*Ed. 160 Children's Literature	3		*Ed. 161 Techniques in Story Telling	2	
P. E. Activity (men), (women)	0.5		Science Group	3	
M. S. 103 Basic Military Science or A. S. 103 Basic Air Science	1.5		M. S. 104 Basic Military Science or A. S. 104 Basic Air Science	1.5	
Electives	2 or 3.5		Electives	2 or 3.5	
		16			16
JUNIOR YEAR					
*Ed. 205 Construction Activities	4		*Ed. 209 K-P Curric. & Tch. Probs.	4	
*Ed. 212 Plays & Games for the K-P School	3		*Ed. 203 Reading and Lang. Arts in the K-P Grades	6	
*G.S. 231 Sci. for Elem. School	3		*Ed. 223 A-V Aids in Education	2	
Electives	5		*Mus. 227 Music in the K-P Grades	2	
		15			16
SENIOR YEAR					
*Ed. 260 Directed Teaching	10		*Ed. 211 History of Education or *Ed. 250 Philosophy of Education	3	
*H.E. 242 School-Community Health	3		*P. S. 200 Constitutional Government	3	
Electives	2		Electives	10	
		15			16

\*May be taken either semester

### GRADUATE YEAR

For Graduate Degree Programs, See Graduate Bulletin.

*Major and Minor Teaching Fields.* A major or minor teaching field is not required of students pursuing the Kindergarten-Primary Curriculum.

*Professional Education.* In the Kindergarten-Primary Curriculum, 41 semester hours of education and psychology are required. Each required Professional Education course is selected for its specific contribution to the preparation of a well-trained and well-balanced teacher.

*Professional Semester.* Students in the Kindergarten-Primary curriculum, whose program will permit, may register for Ed. 250g, 3 hours; Ed. 260, 10 hours; and Ed. 200, 3 hours during the same semester. By registering for these courses and no others, students may enjoy a more flexible schedule of classes and a richer student teaching experience.

*Special Requirements and Electives.* Recommended courses for electives: Art 100, 206, 210; B.A. 110, 120; Ed. 230, 250; H. Ec. 101, 102, 103, 104, 202, 209; Mus. 101, 102, 103, 104, 130; P. E. 167; Psych. 213; Spch. 119, 230, 240. See also *Electives and Specialization* topic, page 128.

Students interested in young children but not in certification may elect any of the kindergarten-primary courses.

Students holding a bachelor's degree may work for the kindergarten-primary certificate on the graduate level. These courses are listed in the Graduate Bulletin.

After July 1, 1956, students enrolled under the Kindergarten-Primary Curriculum will observe the following curriculum pattern:

FRESHMAN YEAR			
First Semester		Second Semester	
	Hours		Hours
Eng. 101 First Year English	3	Eng. 102 First Year English	3
*Phys. Sci. 100 Physical Universe	4	*Biol. 100 Intro. to Biol. Sci.	4
*Psych. 100 Elem. Psychology	3	P.E. 102 Basic P.E. (women)	0.5
P.E. 101 Basic P.E. (women)	0.5	P.E. 108 Sports Survey (men)	0.5
P.E. 107 Sports Survey (men)	0.5	M.S. 102 Basic Military Science or	
M.S. 101 Basic Military Science or		A.S. 102 Basic Air Science	1.5
A.S. 101 Basic Air Science	1.5	*Ed. 101 Explor. of Tchg. Profession	3
Humanities	4	Humanities	4
Electives	0 to 1.5	Electives	0 to 1.5
	16		16
SOPHOMORE YEAR			
First Semester		Second Semester	
	Hours		Hours
*Ed. 206 Foundations of Educ.	3	*H.E. 100 Hygiene	2
*Spch. 110 Elements of Speech	2	Hist. 102 Western Civilization or	3
Hist. 101 Western Civilization or		Hist. 104 U.S. History	3
Hist. 103 U.S. History	3	P.E. Activity (men) (women)	0.5
Mus. 125 Music Fund. for Kdgn.-		*Ed. 181 Technq. in Story Telling	2
Elem. Teachers	2	*Soc. 120 Sociology	3
P.E. Activity (men) (women)	0.5	M.S. 104 Basic Military Science or	
*Ed. 160 Children's Literature	3	A.S. 104 Basic Air Science	1.5
M.S. 103 Basic Military Science		Electives	3 or 4.5
or A.S. 103 Basic Air Science	1.5		
Electives	1 or 2.5		
	16		15
JUNIOR YEAR			
First Semester		Second Semester	
	Hours		Hours
*Ed. 205 Constr. Activities	4	*Ed. 233 A-V Aids in Education	2
*Ed. 207 Fmnds. of Teaching	3	*Ed. 203 Reading & Lang. Arts in	
*Ed. 212 Plays & Games for the		the K-P Grades	6
K-P School	3	*Ed. 209 K-P Curric. & Tchg. Probs.	4
*Sci. 231 Sci. for Elem. School	3	*Mus. 227 Music in the K-P Grades	2
Electives	3	Electives	2
	16		16
SENIOR YEAR			
First Semester		Second Semester	
	Hours		Hours
*Ed. 200 Meas. & Eval. in Elem. School	3	*P.S. 200 Constitutional Govern.	3
*Ed. 260 Directed Teaching		*H.E. 242 School-Community Health	3
in the K-P School	10	*Ed. 263 Probs. of Teachers in	
*Science Group	3	the K-P School	3
		Electives	6
	16		15

\*May be taken either semester

## Elementary Curriculum

This curriculum prepares students for service in the elementary school. No major or minor teaching fields are required. It is advisable that the student take some work in the various departments of the college so as to have a broad knowledge covering many fields. Opportunities for employment as teachers are greatest in the elementary fields. By proper selection of courses of instruction it is possible for students who care to take the necessary extra time to qualify eventually for the secondary certificate also. Interested students will consult an educational adviser who will explain how both certificates may be obtained.

This curriculum leads to the degree of Bachelor of Arts in Education and to certification for teaching in the elementary school, grades one to nine inclusive.

### FRESHMAN YEAR

First Semester		Hours	Second Semester		Hours
Eng. 101 First Year English	_____	3	Eng. 102 First Year English	_____	3
*Phys. Sci. 100 Physical Universe	_____	4	*Biol. 100 Intro. to Biol. Sciences	_____	4
*Psych. 100 Elementary Psychology	_____	3	*Soc. 120 Sociology	_____	3
P. E. 101 Basic P. E. (women)	_____	0.5	P. E. 102 Basic P. E. (women)	_____	0.5
P. E. 107 Sports Survey (men)	_____	0.5	P. E. 108 Sports Survey (men)	_____	0.5
M.S. 101 Basic Military Science or	_____		M.S. 102 Basic Military Science or	_____	
A. S. 101 Basic Air Science	_____	1.5	A. S. 102 Basic Air Science	_____	1.5
Humanities	_____	4	Humanities	_____	4
Electives	_____	0 to 1.5	Electives	_____	0 to 1.5
		<hr/>			<hr/>
		16			16

### SOPHOMORE YEAR

First Semester		Hours	Second Semester		Hours
*Psych. 140 Growth and Development	_____	2	*H. E. 100 Hygiene	_____	2
*Speech 110 Elements of Speech	_____	2	*Geog. 100 Elements of Geography	_____	3
*Ed. 160 Children's Literature	_____	3	Hist. 102 Western Civilization or	_____	
Hist. 101 Western Civilization or	_____		Hist. 104 U. S. History	_____	3
Hist. 103 U. S. History	_____	3	*Ed. 115 Orientation to Education	_____	2
P. E. Activity (men) (women)	_____	0.5	P. E. Activity (men) (women)	_____	0.5
M. S. 103 Basic Military Science or	_____		M. S. 104 Basic Military Science or	_____	
A. S. 103 Basic Air Science	_____	1.5	A. S. 104 Basic Air Science	_____	1.5
Electives	_____	4 to 5.5	Electives	_____	4 to 5.5
		<hr/>			<hr/>
		16			16

### JUNIOR YEAR

First Semester		Hours	Second Semester		Hours
*Ed. 201 Language Arts	_____	3	*Psych. 213 Ed. Psychology	_____	3
*Math. 205 Arithmetic in the Elem. School	_____	3	*Ed. 202 Language Arts	_____	3
*Ed. 200 Measurement and Evaluation in the Elementary School	_____	3	*Ed. 233 Audio-Visual Aids in Education	_____	2
*Ed. 230 Elementary Curriculum	_____	3	*Sci. 231 Science for the Elem. School	_____	3
Electives	_____	4	*P. E. 220 Playground Leadership	_____	2
		<hr/>			<hr/>
		16			16

### SENIOR YEAR

First Semester		Hours	Second Semester		Hours
*Ed. 261 Directed Teaching in the Elem. School	_____	10	*P. S. 200 Constitutional Government	_____	3
*Art 210 Public School Art	_____	2	Ed. 211 History of Education or	_____	
Electives	_____	3	Ed. 250g Philosophy of Education	_____	3
		<hr/>	*H. E. 242 School-Community Health	_____	3
		15	Electives	_____	6
					<hr/>
					15

### GRADUATE YEAR

For Graduate Degree Programs, See Graduate Bulletin.

\*May be taken either semester

*Major and Minor Teaching Fields.* A major or minor teaching field is not required of students pursuing the elementary curriculum.

*Professional Education.* In the elementary curriculum, 37 semester hours of education and psychology are required. Each required professional education course is selected for its specific contribution to the preparation of a well-trained and well-balanced teacher.

*Professional Semester.* Students in the elementary curriculum, whose program will permit, may register for Ed. 250g, 3 hours; Ed. 261, 10 hours; and Ed. 200, 3 hours during the same semester. By registering for these courses and no others, students may enjoy a more flexible schedule of classes and a richer student teaching experience.

*Electives and Specialization.*

Art 100, 101, 105, 106, 115, 117, 121, 206g, 249g.  
 Bus, Ad. 110, 115, 130, 143, 233.  
 Chem. 110, 180.  
 Ed. 161, 232, 240g.  
 Eng. 171.  
 Foreign Languages, any.  
 Geog. 101, 200, 206, 250, 270.  
 Health Ed. 237, 243.  
 Hist. 111, 112, 114, 215, 216.  
 Home Ec. 101, 102, 106, 107, 202, 203, 207, 209.  
 T. I. 100, 103, 105.  
 Lib. Sci. 201, 203, 204, 205.  
 Math. 105, 106, 107, 255.  
 Music 125, 126, 227, 229.  
 P. E. 103, 105, 117, 119, 120, 131, 150, 167, 181, 185, 191 or 192,  
 205, 222, 223, 224, 228, 231, 234, 235.  
 Phys. 105, 110.  
 Pol. Sci. 101, 102.  
 Psych. 115, 200g, 225, 226g, 228g, 282g.  
 Speech 230, 240, 257.  
 Zool. 171, 172.  
 Soc. 225.

Students registered under the elementary curriculum who wish to specialize in industrial arts, home economics, art, or music, may omit the following required courses in the elementary curriculum provided these 13 semester hours are used together with the existing semester hours of electives to develop a teaching field.

Ed. 160 Children's Literature .....	3
Math. 205 Arithmetic in the Elementary School.....	3
G.S. 231 Science for the Elementary School.....	3
Art 210 Public School Art.....	2
P.E. 220 Playground Leadership.....	2

Students who request this option must have the major teaching field approved by the appropriate department head and the entire program must be approved by the Dean of the College of Education.

Students who plan to teach at the junior high school level may group their electives in major and minor teaching fields to suit their teaching interests.

While a major is not required for either kindergarten-primary or elementary curriculums, it may be desirable to take additional work in selected subject fields. Electives may be used toward specialization in a field.

After July 1, 1956, students enrolled under the Elementary Curriculum will observe the following curriculum pattern:

FRESHMAN YEAR			
First Semester	Hours	Second Semester	Hours
Eng. 101 First Year English	3	Eng. 102 First Year English	3
*Phys. Sci. 100. Physical Universe	4	*Biol. 100 Intro. to Biol. Sci.	4
*Psych. 100 Elementary Psychology	3	*Ed. 101 Exploration of the Teaching Profession	3
P.E. 101 Basic P.E. (women)	0.5	P.E. 102 Basic P.E. (women)	0.5
P.E. 107 Sports Survey (men)	0.5	P.E. 108 Sports Survey (men)	0.5
M.S. 101 Basic Military Science or A.S. 101 Basic Air Science	1.5	M.S. 102 Basic Military Science or A.S. 102 Basic Air Science	1.5
Humanities	4	Humanities	4
Electives	0 to 1.5	Electives	0 to 1.5
	16		16

SOPHOMORE YEAR			
First Semester	Hours	Second Semester	Hours
*Speech 110 Elements of Speech	2	*H.E. 100 Hygiene	2
*Ed. 100 Children's Literature	3	*Geog. 100 Elements of Geography	3
Hist. 101 Western Civilization or Hist. 103 U. S. History	3	Hist. 102 Western Civilization or Hist. 104 U.S. History	3
P.E. Activity (men), (women)	0.5	*Ed. 206 Foundations of Education	3
*Soc. 120 Sociology	3	P.E. Activity (men), (women)	0.5
M.S. 103 Basic Military Science or A.S. 103 Basic Air Science	1.5	M.S. 104 Basic Military Science or A.S. 104 Basic Air Science	1.5
Electives	3 to 4.5	Electives	2 to 3.5
	16		15

JUNIOR YEAR			
First Semester	Hours	Second Semester	Hours
*Art 210 Public School Art	2	*Ed. 207 Fundamentals of Teaching	3
*Ed. 201 Language Arts	3	*Ed. 202 Language Arts	3
Math. 205 Arith. in the Elem. School	3	*Ed. 233 Aud.-Vis. Aids in Education	2
Electives	7	*G.S. 231 Science for the Elem. School	3
	15	*P.E. 209 Playground Leadership	2
		Electives	3
			18

SENIOR YEAR			
First Semester	Hours	Second Semester	Hours
*Ed. 264 Probs. of Teachers in the Elementary School	3	*Ed. 230 Elementary Curriculum	3
*Ed. 261 Directed Teaching in the Elem. School	10	*P.S. 200 Constitutional Government	3
*Ed. 200 Measurement and Eval. in the Elem. School	3	H.E. 242 School-Community Health	3
	16	Electives	7
			16

\*May be taken either semester

The student in the elementary curriculum may find it advisable to take considerable extra work in art, biological sciences, English, foreign languages, home economics, industrial arts, library science, mathematics, music, health education, physical education, physical sciences, or social studies. Some flexibility in this respect can be provided by using electives for such purposes. For those interested, an adviser in any department will be glad to help the student work out valuable courses to pursue in that particular department.

## Secondary Curriculum

This curriculum prepares students for service in the secondary school. Majors and minors are completed in the teaching fields desired. The curriculum has considerable flexibility for those who wish to pursue specialized work in addition to the regular expectations for teaching. This curriculum leads to the degree of Bachelor of Arts in Education and to the certification for teaching in the secondary school.

FRESHMAN YEAR			
First Semester	Hours	Second Semester	Hours
Eng. 101 First Year English.....	3	Eng. 102 First Year English.....	3
*Phys. Sci. 100 Physical Universe.....	4	*Biol. 100 Introd. to Biol. Sciences.....	4
*Psych. 100 Elementary Psychology.....	3	*Soc. 120 Sociology.....	3
P. E. 101 Basic P. E. (women).....	0.5	P. E. 102 Basic P. E. (women).....	0.5
P. E. 107 Sports Survey (men).....	0.5	P. E. 108 Sports Survey (men).....	0.5
M.S. 101 Basic Military Science or A.S. 101 Basic Air Science.....	1.5	M.S. 102 Basic Military Science or A.S. 102 Basic Air Science.....	1.5
Humanities.....	4	Humanities.....	4
Electives.....	0 to 1.5	Electives.....	0 to 1.5
	<b>16</b>		<b>16</b>

SOPHOMORE YEAR			
First Semester	Hours	Second Semester	Hours
*Speech 110 Elements of Speech.....	2	*H. E. 100 Hygiene.....	2
Hist. 101 Western Civilization or Hist. 103 U. S. History.....	3	Psych. 140 Growth and Development.....	2
P. E. Activity (men) (women).....	0.5	Hist. 102 Western Civilization or Hist. 104 U. S. History.....	3
*Ed. 115 Orientation to Education.....	2	P. E. Activity (men) (women).....	0.5
M. S. 102 Basic Military Science or A. S. 103 Basic Air Science.....	1.5	M. S. 104 Basic Military Science or A. S. 104 Basic Air Science.....	1.5
Major, minor or electives.....	7 or 8.5	Science Group.....	3
	<b>16</b>	Major, minor or electives.....	4 or 5.5
			<b>16</b>

JUNIOR YEAR			
First Semester	Hours	Second Semester	Hours
*Psych. 213 Ed. Psychology.....	3	*Ed. 228 Methods, Secondary School.....	4
*Ed. 216 Secondary School.....	2	Major, minor, or electives.....	12
Major, minor or electives.....	11		
	<b>16</b>		<b>16</b>

SENIOR YEAR			
First Semester	Hours	Second Semester	Hours
*Ed. 211 History of Education or *Ed. 250 Philosophy of Education.....	3	*P. S. 200 Constitutional Government.....	3
*Ed. 252 Directed Teaching in the Secondary School.....	6	H. E. 242 School-Community Health.....	3
Major, minor or electives.....	6	Major, minor or electives.....	9
	<b>15</b>		<b>15</b>

### GRADUATE YEAR

For Graduate Degree Programs, See Graduate Bulletin.

\*May be taken either semester

### General Pattern

The general pattern for the secondary curriculum provides for the following:

General education .....	43 hours
Professional education .....	22 hours
Major teaching field .....	45 hours
Minor teaching field .....	15 hours
School Community Health .....	3 hours
Constitutional Government .....	3 hours
Military Science or electives .....	6 hours

It can be seen that it is necessary to utilize general education hours to build a minor and to some extent a major. This is explained in the following paragraph under *Major and Minor Teaching Fields*.

*Major and Minor Teaching Fields.* Students under the secondary curriculum are required to complete a major and a minor teaching field.

A major teaching field shall consist of 45 semester hours of work, 24 semester hours of which shall be in courses in a subject field from one department, and the remainder of which shall consist of courses from the same or related fields. A minimum of 18 semester hours in the major teaching field should be upper division courses. Wherever practicable, general education courses which are appropriate should be used to meet the requirements of a major teaching field. Courses included in the general education requirements or options, if taken, may be applied toward meeting the semester hour requirements of a major teaching field if such courses are specified as required courses for the major teaching field, or if approved by the adviser as satisfying major teaching field requirements. Under the secondary curriculum, P.S. 200, Constitutional Government may be used in meeting the social studies requirement in general education.

A minor teaching field shall consist of 15 semester hours in a subject field from one department. In order to meet the various graduation requirements under the secondary curriculum, it is necessary to use general education courses to build the minor teaching field to the extent of 8 semester hours. It is also recommended that the six graduate hours required for the pre-secondary certificate should be planned to strengthen the major or minor teaching field.

In selecting major and minor teaching fields, students should keep in mind the requirements of the North Central Association, the Arizona State Board of Education, and the combinations usually assigned beginning teachers in Arizona high schools. Information concerning these matters can be obtained at the office of the Director of Teacher Education.

The required courses found in the Secondary Curriculum count toward the completion of major and minor teaching fields.

#### Major Teaching Fields Available

Art	Vocal Music
Biological Sciences	Instrumental Music
Business Education	Vocal & Instrumental Music
Chemistry	Health Education
English	Physical Education
Speech and Dramatics	Physics
Spanish	Earth Science
Home Economics	General Social Studies
Industrial Arts	History
Mathematics	Political Science



### Minor Teaching Fields Available

In addition to minors in the above fields, the following minors are available:

Journalism	Library Science
Speech	Music
Dramatics	Physical Sciences
French	

Considerable attention should be given to the selection of teaching combinations. In many instances, teachers must assume positions which call for a major and one or two minors. Although there is no definite pattern concerning teaching combinations, it should be profitable to consider the more prevalent ones. Information regarding these may be obtained from the student's adviser or the Director of Placement.

*Professional Education.* In addition to the courses listed under other requirements, all students registered under the secondary curriculum are required to take 22 semester hours of work in education and psychology. The following must be included: Ed. 115, 215, 211 or 250, 228, 260; Psych. 140, and 213.

It is essential that each student plan the proper sequence of professional courses. Education 215, Secondary School, is a prerequisite for the methods course, History of Education, and Philosophy of Education.

*Recommended Electives and Specialization.* The following electives are recommended for students registered under the secondary curriculum: Art 100; Ed. 232, 233; Eng. 171; Geog. 100; Hist. 110; Math. 105; Mus. 130.

*Certification for Teaching in Arizona.* Completing the requirements for the degree of Bachelor of Arts in Education under the Secondary Curriculum does not meet the requirements for a certificate to teach in Arizona high schools. Students who graduate under this curriculum must have in addition to the degree of Bachelor of Arts in Education, at least six semester hours of graduate work to qualify for a *Pre-Secondary Teaching Certificate*.

Students registered under the Secondary Curriculum may qualify for the elementary certificate by meeting the minimum requirements as set forth by the State Department of Public Instruction, that is, Ed. 230, Elementary Curriculum, a course in Language Arts, and six additional hours of directed teaching in grades one to nine, inclusive. The additional teaching shall be in grades exclusive of those in which the first six semester hours of directed teaching were taken. However, it is strongly recommended that Ed. 201 and Ed. 202, Language Arts, be taken before directed teaching.

After July 1, 1956, students enrolled under the Secondary Curriculum will observe the following curriculum pattern:

FRESHMAN YEAR			
First Semester		Second Semester	
	Hours		Hours
Eng. 101 First Year English	3	Eng. 102 First Year English	3
Phys. Sci. 100 Physical Universe	4	*Biol. 100 Intro. to Bio. Sci.	4
*Psych. 100 Elem. Psychology	3	*Ed. 101 Explor. of the Tchg. Prof.	3
P.E. 101 Basic P.E. (women)	0.5	P.E. 102 Basic P.E. (women)	0.5
P.E. 107 Sports Survey (men)	0.5	P.E. 108 Sports Survey (men)	0.5
M.S. 101 Basic Military Sci. or	1.5	M.S. 102 Basic Military Sci. or	1.5
A.S. 101 Basic Air Science	4 to 5.5	A.S. 102 Basic Air Science	4 to 5.5
Major, minor or electives	4 to 5.5	Major, minor or electives	4 to 5.5
	16		16
SOPHOMORE YEAR			
First Semester		Second Semester	
	Hours		Hours
*Speech 110 Elements of Speech	2	*H.E. 100 Hygiene	2
Hist. 101 Western Civilization or		Hist. 102 Western Civilization or	
Hist. 103 U.S. History	3	Hist. 104 U.S. History	3
P.E. Activity (men) (women)	0.5	P.E. Activity (men) (women)	0.5
*Ed. 205 Funds. of Education	3	M.S. 104 Basic Military Science or	1.5
M.S. 103 Basic Military Science or	1.5	A.S. 104 Basic Air Science	3
A.S. 103 Basic Air Science	6 or 7.5	Science Group	6 or 7.5
Major, minor or electives	6 or 7.5	Major, minor or electives	6 or 7.5
	16		16
JUNIOR YEAR			
First Semester		Second Semester	
	Hours		Hours
*Ed. 207 Fundamentals of Teaching	3	*Ed. 228 Methods of Teaching in the	
Major, minor or electives	8	Secondary School	4
Humanities	4	Major, minor or electives	8
	15	Humanities	4
	15		16
SENIOR YEAR			
First Semester		Second Semester	
	Hours		Hours
*P.S. 200 Constitutional Government	3	*Ed. 265 Problems of Teachers in	
*Ed. 262 Directed Teaching	6	the Secondary School	3
in the Secondary School	7	*H.E. 242 School-Community Health	3
Major, minor or electives	7	Major, minor or electives	9
	16		15

\*May be taken either semester

### MAJOR AND MINOR TEACHING FIELDS

Following are detailed suggestions for preparing to teach in each of the respective major and minor fields. In each case it is advisable to complete a major teaching field of 45 semester hours in the first four years. The six hours of graduate work to qualify for a Pre-Secondary Teaching Certificate may be used to supplement the major or minor. Candidates for the master's degree planning to teach in the secondary schools may complete an additional 15 semester hours of graduate credit in the fifth year. In each case the student should consult his adviser in the planning of his course program.

#### The Teaching of Art

As the stress in modern art education is upon creative expression carried on for the development of integrated personalities, adjusted to society, and upon art as a functional agent which helps pave the way to better social understanding, the art teacher must secure in his training a broad concept of art in relation to general education. All teacher candidates must become qualified to coordinate the broad social values of art with the total public school program.

*Major Teaching Field in Art.* Art courses in the undergraduate program, to secure a balance of creative art experience, technical mastery, art education, theory and appreciation, should be distributed as follows: Design, minimum of 4 credits; Crafts, minimum of 6 credits; Drawing and Painting, minimum of 8 credits; Three-dimensional Art (Space Design, Sculpture, Interior Design, Ceramics),

minimum of 4 credits; Commercial Art, minimum of 5 credits; Understanding and Appreciation, (Art History), minimum of 6 credits; Professional Art Education, minimum of 2 credits.

Optional courses to complete 45 semester hours of art in the undergraduate program should be selected under the guidance of the adviser.

*Minor Teaching Field in Art.* This field consists of 15 hours. The following should be included: Art 101, 105, 210, 211.

### **The Teaching of Biological Sciences**

The very nature of high school biology calls for a teacher with a broad training in the biological sciences, rather than one who is highly specialized.

*Major Teaching Field in the Biological Sciences.* Required undergraduate courses: Bact. 110; Biol. 130, 204, 280; Biol. 190 or 290; Bot. 110, 142; Zool. 110, 180, 185, 231, 254, 255; Bot. or Zool. 260. Supporting courses not counted as part of the major, but required, are Phys. Sci. 100; Chem. 110; Phys. 110.

*Graduate Requirements.* The following courses or their equivalent, are required: Biol. 204, 280g or 300; Bot. or Zool. 260g; Zool. 231g, 254g; plus elementary work in ecology, entomology, ornithology, and plant systematics. For those who have not had the elementary work in ecology, plant systematics, or ornithology, Bot. or Zool. 230g; Bot. 242g, and Zool. 270g may be substituted. If the above courses, or their equivalent, have been taken at the undergraduate level, then a further selection may be made from the following: Biol. 300, 305; Bot. or Zool. 230g; Bot. 242g, 243g, 244g; Zool. 212g, 216g, 220g, 222g, 228g, 232g, 233g, 255g, 261g, 271g.

Those electing the physical sciences as a minor can use either Chem. 110 and/or Physics 110 as part of the 15 semester hour minimum requirement.

*As soon as the student decides to major in the biological sciences he should inquire* at the department office, Science Building, Room 132, for a curriculum check sheet and arrange for a guidance conference with his adviser. Failure to do this may result in a needless loss of time toward graduating.

*Minor Teaching Field in the Biological Sciences.* The minimum requirement is 15 semester hours which must include Bot. 110 and Zool. 110 or Zool. 111-112. Biol. 204 is strongly recommended. Optional courses should be selected only with the approval of the minor adviser. Biol. 100, Zool. 171 and 172 will not fulfill this requirement

### **The Teaching of Business**

*Major Teaching Field in Business.* The major teaching field for business subjects in high school consists of the following semester hours taken in the first four years: Bus. Ad. 101, 102, 120, 143, 173, 185, 186, 205, 233. An additional group of semester hours must be selected from the following with approval of the adviser: Bus. Ad. 110, 113, 114, 121, 132, 171, 181, 191, 206, 215, 238, 241.

Minor teaching fields are offered in secretarial and general business.

*Minor Teaching Field in Secretarial.* Fifteen hours from the following: Bus. Ad. 101, 114, 120, 143, 185, 186 or 238.

*Minor Teaching Field in General Business.* Fifteen hours from the following: Bus. Ad. 101, 120, 143, 181, 205, 215.

### **The Teaching of English, Speech, Dramatics and Journalism**

This department offers major teaching fields in English and in speech and dramatics as outlined below. To complete either of these, 45 semester hours in the field must be completed in the first four years. Candidates for the master's degree planning to teach English, speech, or dramatics in secondary schools should complete additional courses in these subjects during the fifth year.

*Major Teaching Field in English.* First year, Eng. 101 and 102. Second year, Eng. 103, 104, 128, 151, and 152; Speech 110 or 120; Hist. 105 and 106. Third year, Eng. 221, 222, and 6 hours of upper division English electives. Fourth year, Eng. 231, 252 or 254, and 2 or 3 hours of upper division English electives.

*Major Teaching Field in Speech and Dramatics.* First year, Speech 115 and 119. Second year, Speech 122, 127, 221; Eng. 128. Third year, Speech 120, 230, 235; Eng. 252. Fourth year, Speech 257, 260; Eng. 254; plus 11 additional hours during the four years selected from the following courses: Eng. 203, 205, 206, 217, 218; Psych. 240, and any other courses in speech.

Minor teaching fields are offered in English, journalism, speech, and dramatics.

*Minor Teaching Field in English.* Speech 110 or 120; Eng. 103, 104, and 152; 6 hours of upper division English; any other 3 hours in English, Speech, or journalism, except English 101 and 102.

*Minor Teaching Field in Journalism.* Eng. 128; Journ. 130, 140, 141, and 243.

*Minor Teaching Field in Speech.* Speech 115, 120, 127, 170, 221, 257, 260.

*Minor Teaching Field in Dramatics.* Speech 119, 122, 221, 230, 235.

### **The Teaching of Foreign Languages**

*Major Teaching Field in Spanish.* A major teaching field in Spanish consists of 45 semester hours of work of which 18 hours shall be in upper division courses in Spanish. These hours must be completed in the first four years. The following courses are required: Span. 103, 104, 203, 204, 205, 206, 224; and Eng. 151 or one of the following: Hist. 115, 116, 205, 207. Enough additional hours during the four years to meet the requirement may be selected from the following courses or from other courses in Spanish: Fr. 101-102, 103-104; Ger. 101-102, 103-104; Lat. 101-102, 103-104, Russ. 101-102, 103-104.

*Minor Teaching Field in Spanish.* The minor of 15 hours will consist of Spanish 103-104 and seven more hours work in the field.

*Minor Teaching Field in French.* The minor of 15 hours will consist of French 103-104 and seven more hours work in the field.

*Minor Teaching Field in German.* The minor of 15 hours will consist of German 103-104 and seven more hours work in the field.

#### **The Teaching of Home Economics**

*The Major Teaching Field in Home Economics.* To complete a major teaching field in home economics 45 semester hours of work must be completed in the first four years and not less than 18 of the total shall be upper division. Candidates for the master's degree planning to teach home economics in the secondary schools should complete additional courses in the fifth year. The vocational certificate may be earned in four years by meeting the following requirements: H.Ec. 100, 101, 102, 104, 105, 108, 202, 203, 206, 207, 209, 211, 214, 215, 217, 219; Art 100; Ed. 228, 260; and a minor in general science or social science.

*Minor Teaching Field in Home Economics.* This field requires 15 semester hours. H.Ec. 106, 107 are recommended. The remaining courses may be chosen with the approval of the head of the department.

#### **The Teaching of Industrial Arts**

*Major Teaching Field in Industrial Arts.* For students planning to teach in the secondary schools, 45 semester hours of Industrial Arts courses are required, including I. A. 109, 211, 212. The student will select 15 semester hours from the following courses: T. I. 100, 104, 105, 111, 113, 115, 122, 124, 126, 145, 160, 200. A minimum of 12 hours of work is required in each of two of the following divisions of the department: Aeronautics, Architectural or Industrial Drafting, Building and Construction, Electricity and Electronics, and Mechanics. In each case half of these semester hours should be in upper division courses.

*Minor Teaching Field in Industrial Arts.* Fifteen semester hours of work are required, including I. A. 211 and 212.

#### **Library Science**

Under the secondary curriculum, students who desire to prepare for high-school librarianship may choose a minor teaching field in Library Science. The undergraduate program of professional education for high school librarians should also include a systematic survey of the various fields of knowledge, concentration in one or more subject fields taught in Arizona High Schools, background courses of special value in library science, study of professional principles and methods common to school libraries.

Students who have completed a minor teaching field in Library Science at the undergraduate level may select Library Science as a field of specialization at the graduate level.

*Minor Teaching Field in Library Science.* The minor in Library Science consists of 15 semester hours. The courses are: L.S. 203, 204, 205, and 206, and a choice of either L.S. 201, 202 or 290.

*The Graduate Field of Specialization in School Library Services.* Ordinarily at least 10 semester credit hours should be earned among the following professional courses: L.S. 223g, 224g, 225g, 226g, 251g, 252g, 390.

### **The Teaching of Mathematics**

*Major Teaching Field in Mathematics.* For students who choose mathematics as their major teaching field, forty five or more hours in mathematics and related subjects are required, including Advanced Calculus (Math. 221, 222), and at least three other courses on the 200 level in consultation with the adviser. At least one mathematics course should be taken each semester. In addition, various courses in physical science and foreign languages (both French and German) are strongly recommended. Transfer students must take at least two courses in mathematics at this college.

*Minor Teaching Field in Mathematics.* The minor teaching field in mathematics consists of fifteen hours in mathematics, including a year of calculus, Ed. 228, and one other mathematics course on the 200 level, in consultation with the mathematics adviser. Transfer students must take at least one course in mathematics at this College.

### **The Teaching of Music**

Under the secondary curriculum, students may choose a major teaching field in vocal, instrumental, or vocal and instrumental music. The major teaching field in vocal music prepares for teaching all vocal classes commonly taught in high schools. The major teaching field in instrumental music is for those desiring to teach band, orchestra and instrumental ensembles. The major teaching field in vocal and instrumental music is for those preparing to teach in both fields.

Students planning a major teaching field in music must take certain tests to determine their general aptitude and achievement, and their special accomplishments in voice or on instruments.

All students majoring in music are required to attend 25 authorized on campus recitals during the school year as partial fulfillment of the course requirements in his major performing field.

*Prerequisites.* Music 111, 112 or equivalents are prerequisites in all major teaching fields. These requirements may be met either by taking the courses or comprehensive examinations.

*Major Teaching Field in Vocal Music.* The courses listed below are required. Freshman year, Mus. 113, 117, 118; voice, 4 hours; piano, 4 hours; ensemble, 2 hours. Sophomore year, Mus. 115, 116; voice, 4 hours; piano, 4 hours; ensemble, 2 hours. Junior year, Mus. 119, 120, 215, 217, 235; Ed. 228 and voice, 4 hours. Senior year, Mus. 225; voice, 4 hours. Graduate year; 226g, 284g, 288g, 292g, 303, 310, 321, 322, 323, 324 and 390. All students taking this field are advised to take 8 hours of foreign language.

*Major Teaching Field in Instrumental Music.* The courses listed below are required. Freshman year, Mus. 117, 118; major instrument, 4 hours; piano, 4 hours; ensemble, 2 hours. Sophomore year, Mus. 115, 116; major instrument, 4 hours; piano, 4 hours; ensemble, 2 hours. Junior year, Mus. 119, 120, 215, 219, 235; Ed. 228; major instrument, 4 hours; minor instrument, 2 hours. Senior year, Mus. 225; major instrument, 4 hours; minor instrument, 4 hours. Graduate year, Mus. 226g, 245g, 255g, 284g, 288g, 292g, 303, 310, 321, 322, 323, 324 and 390.

*Major Teaching Field in Vocal and Instrumental Music.* Only students with a good background in both vocal and instrumental music will be accepted as candidates for the major teaching field in vocal and instrumental. The courses listed below are required. Freshman year, Mus. 113, 117, 118; voice, 4 hours; piano, 4 hours; ensemble, 2 hours. Sophomore year, Mus. 115, 116; voice, 4 hours; piano, 4 hours, ensemble, 2 hours. Junior year, Mus. 119, 120, 215, 217, 219, 235; Ed. 228; instruments 4 hours. Senior year, Mus. 225; instruments, 4 hours. Graduate year, Mus. 226g, 245g, 255g, 284g, 288g, 292g, 303, 310, 321, 322, 324, and 390.

*Minor Teaching Field in Music.* The minor in Music consists of at least 15 semester hours. For a minor in vocal music the following sequence of courses is suggested: Mus. 111, 112, 117, 118, 217, 235 and Ed. 228. In addition, courses should be chosen from applied music, piano, voice, and chorus. For a minor in instrumental music the following sequence is recommended: Mus. 111, 112, 117, 118, 219, 235 and Ed. 228. Participation in band and orchestra should be included.

*Admission Tests in Music.* Students planning a major teaching field in music must take certain tests to determine their general music aptitude and achievement, and their special accomplishments in voice or on instruments. See department head for additional information.

*Attendance at Recitals Required.* All students taking a major teaching field in music are required to attend student and faculty recitals.

### **The Teaching of Health and Physical Education**

*Major Teaching Field in Health Education.* This teaching field consists of 45 semester hours to be completed during the first four years. At least 24 hours must be in Health Education or in related subjects. At least 18 of the 45 hours must be in upper division courses. Required courses: H.E. 237, 243; P.E. 167; Bact. 110; Zool. 172. The remaining semester hours must be in Health Education or courses related to the subject of Health Education and shall be chosen by the student in consultation with his adviser.

*Minor Teaching Field in Health Education.* Fifteen hours are required including six upper division courses. Required courses: Psych. 140; H.E. 237, 243; Zool. 172. The remaining semester hours shall be chosen by the student in consultation with his adviser.

*Major Teaching Field in Physical Education.* This teaching field requires 45 semester hours to be completed during the first four years. At least 24 semester hours must be in physical education courses. At least 18 of the 45 hours must be in upper division courses.

Required courses for women: P.E. 109, 171, 172, 173, 174, 193, 236. The remaining semester hours must be in physical education or courses related to the subject of physical education and shall be chosen by the student in consultation with his adviser.

Required courses for men: Biol. 100; Chem. 110; P.E. 109, 124, 125; Zool. 171-172; P.E. 167, 195, 196, 217, 218, 236, 251, 254, 256g, plus two hours of selected activity courses. Other courses may be taken after conference with the adviser.

*Minor Teaching Field in Physical Education.* Fifteen hours are required for the minor. Women are required to take P.E. 109, 171, 172, 173, 174, 205, 234. The remaining four hours shall be selected by the student in consultation with her adviser.

Courses required for men are: P.E. 109, 167, 251 or 254, plus two courses from the following group: P.E. 195, 196, 217, 218. Other courses may be selected with approval of the adviser.

### **The Teaching of the Physical Sciences**

Students planning to teach general science, chemistry or physics in the high school should take basic courses in biology, chemistry, physics and mathematics. Over specialization is to be avoided because the prospective science teacher may find it necessary to give instruction in most of the above fields.

To complete a major teaching field, 45 semester hours of work, in physical sciences and related fields, must be completed in the undergraduate program. A minimum of 18 semester hours shall be upper division courses. Not less than 24 semester hours must be completed in one subject field and the remaining 21 hours from related fields. Major teaching fields are offered in: (1) Earth Science, (2) Chemistry, and (3) Physics.

Each student should begin to plan his program with his adviser not later than the second year. Required courses for each teaching major are listed. The optional courses in science and related subjects should be selected under the guidance of the adviser. Candidates for the Master's degree in secondary science teaching should complete additional science work during the period of graduate training. In each major teaching field a number of courses for graduates are recommended.

*Major Teaching Field in Earth Science.* Students planning to teach geography, social studies, and related subjects should select this field. Undergraduate courses required: Geog. 100, 101, 105, 200, 206, 209, 211; Geol. 151. Optional courses will be selected from geography, and related fields with adviser's approval. Recommended courses for graduates: Geog. 254g, 270g, 275g, 289g.



*Major Teaching Field in Chemistry.* Those interested in teaching chemistry should minor in mathematics, physics, or Biology. Undergraduate courses required: Chem. 111, 112, 141, 180 (or Chem. 211, 212); Phys. 111, 112; Math. 118. Remaining semester hours are to be selected from chemistry or physics under guidance of adviser.

*Major Teaching Field in Physics.* Those interested in teaching physics should take a minor in mathematics. Undergraduate courses required: Phys. 111, 112, 113, 200, 210, 215; Phys. Sci. 200; Chem. 111, 112; Math. 118. Remaining semester hours are to be selected from mathematics, physics, or chemistry, under guidance of adviser.

*Minor Teaching Fields in Physical Sciences.* Minor teaching fields are offered in general science, geography, chemistry, and physics. Each student desiring a science teaching minor shall begin planning with his science adviser not later than the beginning of his third year. Any courses required for the major will not be accepted as meeting the requirements for the minor teaching field. A minor consists of 15 semester hours. Suggested program for each minor teaching field is given below. The student may select the courses in any one of the following fields that fits his interests and requirements.

Minor Teaching Field in Chemistry. Chem. 111, 112, 141, 180, 260, 280.

Minor Teaching Field in Geography. Geog. 100, 101, 120, 200, 206, 209, 211, 215, 250, 270; Geol. 151, 152.

Minor Teaching Field in General Science. Biol. 100; Chem. 110, 180; Phys. 105, 110, 210; Geol. 151.

Minor Teaching Field in Physics. Phys. 111, 112, (or 121, 122), 113, 200, 210.

### **The Teaching of Social Studies**

It is recommended that students planning to teach social studies complete basic courses in history, economics, sociology, and political science, since they may be expected to teach several branches of social science. Major teaching fields are offered in history and political science. A major teaching field requires the completion in the undergraduate program of 45 hours of work in one of the two fields specified above. Lower division courses must total at least 21 hours out of 45, and not less than 18 of the total shall be upper division. Candidates for the master's degree preparing to teach social studies should complete additional courses in one or more of these fields during the fifth year. Programs for each of the teaching fields are outlined below. At least three-fourths of the hours completed toward a major must be taken in the Social Studies.

*Major Teaching Field in History.* This field is for those who expect to teach mainly history. The following courses are required: Hist. 101-102, 103, 104, 220. In addition this teaching field requires at least nine hours in lower division courses chosen from the following: Hist. 105, 106, 107-108, 109, 111, 112, 114, 115, 116; P.S. 101, 104, 106; Soc. 120; Bus. Ad. 130; and 16 hours in upper division courses chosen

from the following: Hist. 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 214, 215, 216, 217, 219, 223; P.S. 200, 201, 204; or from other related courses selected in conference with the social studies adviser.

*Major Teaching Field in Political Science.* This field is for those who plan to teach mainly government or civics. The following courses are required: Hist. 103-104, 220, and P.S. 101-102. In addition this teaching field requires at least nine hours in lower division courses chosen from the following: Hist. 101-102, 105-106, 109; P.S. 103, 104, 105, 106; Soc. 120; Bus. Ad. 130; and 16 hours in upper division courses chosen from the following: Hist. 203, 217, 223; P.S. 200, 201, 203, 204, 206, 207, 208, 209, 210; or from other related courses selected in conference with the social studies adviser.

Minor teaching fields are offered in history and political science. A student desiring a minor in these fields should begin planning with his social studies adviser not later than the beginning of his third year. Failure of the student to have his program approved by the adviser may result in a needless loss of time toward graduating. A minor consists of 15 semester hours in the subject field. Not less than six hours in a minor should be in upper division courses. At least three-fourths of the hours completed toward a minor must be taken in the Social Studies Department.

*Minor Teaching Field in History.* The following courses are required: Hist. 101-102, 103-104, and one course from Hist. 105, 106, 107, 108, 109, 111, 112, 114; P.S. 101, 104. In addition this teaching field requires six hours upper division courses chosen from the following: Hist. 200, 201, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 214, 215, 216, 217, 219, 220, 223; P.S. 200 201, 204.

*Minor Teaching Field in Political Science.* The following courses are required: Hist. 103-104; P.S. 101, 102, and one course from P.S. 103, 104, 106. In addition this teaching field requires six hours in upper division courses chosen from the following: Hist. 203, 217, 223; P.S. 200, 201, 203, 204, 206, 207, 208, 209.

# College of Business Administration

## Purpose

The College of Business Administration offers courses to meet the needs of six groups of students:

(1) Those preparing for some phase of business as a career and those who wish to obtain the degree of Bachelor of Science with special training in

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|-----------------------------|---------------------------------|
| (a) Accounting              | (j) Marketing Management        |
| (b) Advertising             | (k) Medical or Dental Secretary |
| (c) Business Management     | (l) Office Management           |
| (d) Economics               | (m) Personnel                   |
| (e) Executive Secretaryship | (n) Purchasing                  |
| (f) Finance                 | (o) Real Estate                 |
| (g) Foreign Trade           | (p) Retailing                   |
| (h) Industrial Management   | (q) Selling                     |
| (i) Insurance               |                                 |

(2) Those not planning to graduate but who desire one or more years of college work in preparation for business pursuits.

(3) Those preparing to teach business subjects in secondary schools.

(4) Those pursuing any of the other curriculums offered by the College, and desiring certain electives in business administration.

(5) Those desiring to go on to graduate work in business, economics, law, and other such studies, and who desire a strong undergraduate program in the various phases of business administration or economics.

(6) Those who are employed or engaged in business pursuits and who wish to take advantage of self-improvement opportunities offered by the Evening College Program on the campus and the night Extension Classes offered off campus, mostly in Phoenix.

In addition to the academic departments, the College of Business Administration maintains a Bureau of Business Services for the purpose of obtaining factual data from the surrounding community for class discussion, and further providing students enrolled in the College of Business Administration with practical experience in the study and analysis of various fields of business. The Bureau of Business Services also serves business and public organizations interested in furthering the economic development of Arizona through studies and reports prepared by the faculty and students of the College.

## Organization

The College of Business Administration provides training in the following subject fields: Accounting; Economics and Management; Marketing and Advertising; Office Training and Management; and Business Education.

## Guidance and Counseling

*Advisement.* Each student enrolled in the College of Business Administration must choose an adviser. Advisers should be consulted for all curriculum planning. A permanent record will be kept by the student's adviser, who will record all pertinent data to the student's academic development. When a student transfers from one adviser to another within the College of Business Administration, this record must also be transferred. The adviser's approval must be obtained on all matters of the student's curriculum development. The Standards Committee of the College of Business Administration shall be the final authority on all advisement matters as they pertain to Business Administration. Exceptions to any requirement as prescribed by the College of Business Administration will be made only upon written application to the adviser and with the written approval of the Standards Committee of the College of Business Administration. All other course and curriculum exceptions are under the jurisdiction of the Admissions and Standards Committee of the College, and are described elsewhere in this catalog.

Each student completing a field of specialization in Business Administration should recognize that, in many instances, his needs might be better met by a well chosen program which combines the courses of that field with other courses in the College of Business Administration or with courses offered by other colleges. In such instances, the student, his field of specialization adviser, and an appropriate adviser in areas outside the College of Business Administration, will combine their judgment to provide the student with a program best suited to his needs. Any program so developed must be in conformity with all applicable requirements as listed in this catalog.

### Transfer of Credit from Other Institutions

(1) Courses transferred as prerequisites must meet prerequisite requirements listed for the courses in this College.

(2) All courses transferred and accepted for upper division credit in the College of Business Administration must be classified as upper-division courses at the institution from which such courses are transferred.

(3) Transferred courses which are accepted by the Registrar may serve to meet graduation requirement but may not be acceptable for meeting field of specialization requirements within the College of Business Administration.

(4) Any adjustments to meet the above requirements set forth in (1), (2), and (3) shall be made with the approval of the student's adviser in the manner prescribed by the Standards Committee of the College of Business Administration.

(5) Any exceptions to the above rules must be properly submitted to the Standards Committee of the College of Business Administration for action.

## Bachelor of Science Degree Curriculum in Business Administration

The satisfactory completion of a four-year curriculum of 126 semester hours, including general education requirements prescribed for every student enrolled in the college, the required courses in Business Administration, and a field of specialization in business administration leads to a degree of Bachelor of Science.

Students seeking the Bachelor of Science degree in the College of Business Administration must complete:

	Men required to take Military or Air Science	Women—also men exempt from Military or Air Science.
I. General Education requirements for all students (as described below) .....	43 sem. hrs.	43 sem. hrs.
IIa. Military or Air Science for men....	6 sem. hrs.	0 sem. hrs.
IIb. Electives, outside of College of Business Administration, for women and for men exempt from Military or Air Science.....	0 sem. hrs.	5 sem. hrs.
III. B.A. 132, Principles of Economics .....	3 sem. hrs.	3 sem. hrs.
Total non-business courses....	52	51
IV. Required courses in the College of Business Administration (as described below) .....	32 sem. hrs.	32 sem. hrs.
V. Fields of specialization requirements (as described below) .....	24-36 sem. hrs.	24-36 sem. hrs.
VI. Electives (as approved by adviser) to meet requirements of 126 semester hours for graduation .....	18-6 sem. hrs.	19-7 sem. hrs.
Total for Bachelor of Science Degree .....	<u>126 sem. hrs.</u>	<u>126 sem. hrs.</u>

### General Education

1. <i>Communications</i> .....		8 sem. hours
Eng. 101, 102.....	6 sem. hours	
Spch. 110 or 115.....	2 sem. hours	

2. *Humanities* ..... 8 sem. hours

**Option I**

Eight semester hours to be selected from the following, not more than one course in a subject:

Arch. 100; Art 100 211, 212;  
Eng. 153, 154, 171, 172, 221,  
222; For. Lang. 100; Mus. 110,  
130; Phil. 100, 204 ..... 8 sem. hours

**Option II**

Hum. 101, 102..... 6 sem. hours

One course to be selected from the following:

Art 211, 212; Eng. 153, 154,  
221, 222; For. Lang. 100; Mus.  
110; Phil. 204 .....2-3 sem. hours

3. *Social Sciences* ..... 9 sem. hours

**Option I**

Hist. 101, 102 or Hist 103, 104.... 6 sem. hours

One course to be selected from the following:

Anthro. 125; B.A. 115, 130;  
P.S. 101; Soc. 120..... 3 sem. hours

*Note:* As B.A. 130 is a prerequisite course to B.A. 132, all students enrolled in the College of Business Administration should select B.A. 130 as a part of Option I.

**Option II (Not offered 1955-56)**

Year course — Introduction to the Social Sciences ..... 6 sem. hours

One course to be selected from the following:

Hist. 101, 102, 103, 104..... 3 sem. hours

4. *Sciences* .....11 sem. hours

At least one course to be selected from each of Groups 1 and 2.

Group 1. Physical Sciences—  
Phys. Sci. 100, 200; Chem. 110,  
112; Geog. 100; Geol. 151;  
Phys. 105, 110, 112.

Group 2. Biological Sciences—  
Biol. 100; Bot. 110; Zool. 110,  
112.

Group 3. Mathematics—  
Math. 105, 106, 107, 118, 119.

*Note:* As either Math. 105, 106, or the equivalent is prerequisite to the business mathematics requirement of the

College of Business Administration, business administration students should select one of these two courses as a part of their science requirements.

5. *Health and Adjustment*..... 7 sem. hours  
 Physical Education Activity..... 2 sem. hours  
 H.E. 100 ..... 2 sem. hours  
 Psych. 110 ..... 3 sem. hours

Where a course is used to meet both general education and field of specialization requirements, the semester hours of credit can apply only once to the total required for graduation.

### Required Courses in the College of Business Administration

The following 32 semester hours of basic business courses are required for a Bachelor of Science degree in Business Administration.

<i>Course</i>	<i>Semester Hours</i>
B.A. 101, 102 Elementary Accounting.....	8
B.A. 141 Mathematics of Business, or B.A. 212 Mathematics of Accounting.....	2
B.A. 173 Principles of Marketing.....	3
B.A. 205, 206 Business Law.....	6
B.A. 215 Business Organization and Management .....	3
B.A. 224 Business Statistics .....	4
B.A. 233 Business Communication.....	3
B.A. 217 Money and Banking, or B.A. 225 Business Finance, or B.A. 266 Corporation Finance .....	3
Total.....	32

It is assumed that all students enrolled in the College of Business Administration are able to type. Each student will be asked to demonstrate his typing ability upon enrolling in B.A. 233, Business Communication.

### Field of Specialization

A field of specialization consists of a pattern of related courses in a subject matter area. The student must complete the required and optional courses as listed for that field.

### Elective Courses

Sufficient elective courses, as approved by the student's adviser, are to be selected by the student to complete a total of 126 semester hours required for graduation.

## Four-Year Curriculum Outline

The following is a suggested outline to indicate to the student a way in which he can work out a four-year program of study. It is the policy of the College of Business Administration to develop the curriculum to meet the educational needs of the individual student, therefore, this outline is only general in nature. The student is urged

to contact his adviser and work out a detailed program to meet the student's educational objective.

FIRST YEAR			
First Semester	Hours	Second Semester	Hours
Eng. 101 First Year English	3	Eng. 102 First Year English	3
B.A. 130 Introduction to Economics	3	B.A. 132 Principles of Economics	3
General Education	3-4	General Education	4
Physical Education	0.5	Physical Education	0.5
R.O.T.C.	1.5	R.O.T.C.	1.5
Business Administration required courses	5-6	Business Administration required courses	4-5
16-17		16-17	

SECOND YEAR			
First Semester	Hours	Second Semester	Hours
Hist. 101 or 103	3	Hist. 102 or 104	3
General Education	3-4	Psych. 100	3
Speech	2	H.E. 100	2
Physical Education	0.5	Physical Education	0.5
Military or Air Science	1.5	Military or Air Science	1.5
Business Administration required or Field of Spec. courses	5-6	Literature	3
16-17		Business Administration required or Field of Spec. courses	3-4
16-17		16-17	

THIRD YEAR			
First Semester	Hours	Second Semester	Hours
General Education	3	Music or Art	2
*Field of Spec. courses and electives	13-14	*Field of Spec. courses and electives	14-15
16-17		16-17	

FOURTH YEAR			
First Semester	Hours	Second Semester	Hours
*Field of Spec. courses and electives	16-17	*Field of Spec. courses and electives needed to reach 126 hours for graduation.	16-17

\*Business Administration, field of specialization requirements.

### Field of Specialization Requirements

*Accounting.* This field of specialization provides the essential academic training for (1) those planning to manage their own business or those preparing to enter positions in general accounting, cost accounting, or governmental service; and, (2) for those wishing to specialize for professional careers in the field of controllership or public accounting.

Students selecting this field of specialization must complete B.A. 266, Corporation Finance to satisfy the college finance requirement and Math. 106, Intermediate Algebra to satisfy a portion of the science requirement of the General Education requirements.

The following 8 semester hours are required:

B.A. 212 Mathematics of Accounting	2 sem. hours
B.A. 191 Intermediate Accounting	3 sem. hours
B.A. 192 Intermediate Accounting	3 sem. hours

In addition the student, with the advice and approval of his adviser, will complete 18 semester hours of courses selected from those listed in the accounting section of this catalog. Under the same conditions, certain related courses also may be selected.

Students interested in public accounting should note the comments thereon under the Special Program section, page 154.

*Advertising.* This field of specialization is designed to prepare students for jobs in advertising agencies, in advertising departments of retail stores and manufacturing firms, and on the advertising staffs of newspapers and broadcasting stations.



The following 16 semester hours are required:

Art 121 Lettering.....	2 sem. hours
B.A. 171 Introduction to Selling.....	2 sem. hours
B.A. 174 Marketing Practices .....	3 sem. hours
B.A. 175 Introduction to Advertising.....	3 sem. hours
B.A. 277 Principles of Retailing.....	3 sem. hours
B.A. 283 Marketing Analysis .....	3 sem. hours

In addition the student, with the advice and approval of his adviser, will complete 12 semester hours from the courses listed in the Marketing and Advertising sections of this catalog. Under the same conditions, a limited number of related courses may also be selected.

*Business Management.* This field of specialization is designed to meet the needs of those students who (1) desire a broad undergraduate program in business administration prior to taking specialized graduate work, or who (2) plan to assume management responsibilities in large business units, or who (3) are uncertain of their specialization and desire a diversified course of study in the general field of business.

Students selecting this field of specialization must complete B.A. 225, Business Finance, to satisfy the college finance requirement.

The following 18 semester hours are required:

B.A. 133 Economics of Enterprise.....	3 sem. hours
B.A. 216 Managerial Economics .....	3 sem. hours
B.A. 219 Labor Relations .....	3 sem. hours
B.A. 263 Business Policies .....	3 sem. hours
B.A. 265 Personnel Administration .....	3 sem. hours
B.A. 268 Business Research .....	3 sem. hours

In addition the student, with the advice and approval of his adviser, will complete 6 semester hours of related courses.

*Economics.* This field serves the needs of those students who desire (1) an effective undergraduate program leading towards work as a private or governmental economist, or (2) a sound preparation for advanced studies elsewhere in this field.

The student selecting this emphasis must complete B.A. 217, Money and Banking, to satisfy the college finance requirement.

The following 9 semester hours are required:

B.A. 133 Economics of Enterprise.....	3 sem. hours
B.A. 134 Economics of Income and Employment .....	3 sem. hours
B.A. 267 History of Economic Thought.....	3 sem. hours

In addition the student, with the advice and approval of his adviser, will complete 15 semester hours of courses selected from those listed in the Economics section of this catalog. Under the same conditions, certain related courses also may be selected.

*Executive Secretaryship.* This field of specialization is especially organized to train those interested in becoming private and personal secretaries. Emphasis is on the development of stenographic and other essential skills and techniques required for success in this field.

The following 9 semester hours are required:

B.A. 185 Shorthand and Transcription.....	3 sem. hours
B.A. 186 Transcription .....	3 sem. hours
B.A. 238 Secretarial Office Practices.....	3 sem. hours

In addition the student, with the advice and approval of his adviser, will complete 15 semester hours of courses selected from those listed in the Office Training and Management and the Management sections of this catalog. Under the same conditions, a limited number of related courses also may be selected.

*Finance.* This field of specialization is designed to provide academic training for those interested in banking, investments, stock brokerage, and similar fields.

The student selecting this field of specialization must complete B.A. 217, Money and Banking, to satisfy the college finance requirement.

The following 15 semester hours are required:

B.A. 133 Economics of Enterprise.....	3 sem. hours
B.A. 134 Economics of Income and Employment .....	3 sem. hours
B.A. 220 Investments .....	3 sem. hours
B.A. 257 Public Finance .....	3 sem. hours
B.A. 266 Corporation Finance .....	3 sem. hours

In addition the student, with the advice and approval of his adviser, will complete 9 semester hours of courses selected from those listed in the Business Administration sections of this catalog.

*Foreign Trade.* This field of specialization in the College of Business Administration provides academic training for business and commercial activities involving contact with foreign nations.

The following 30 semester hours are required:

B.A. 262 Comparative Economic Systems....	2 sem. hours
B.A. 271 International Trade .....	2 sem. hours
B.A. 272 International Finance .....	2 sem. hours
Foreign Languages (24 hours or equivalent)	

In addition the student, with the advice and approval of his adviser, will complete 12 semester hours of courses selected from those listed in the Business Administration, Geography, History, Political Science, Finance, and Sociology sections of this catalog.

*Industrial Management.* This field of specialization is designed specifically for those students planning a management career in manufacturing industries.

The following 24 semester hours are required:

B.A. 192 Intermediate Accounting .....	3 sem. hours
B.A. 208 Cost Accounting .....	3 sem. hours
B.A. 219 Labor Relations .....	3 sem. hours
B.A. 250 Production Management and Control .....	3 sem. hours

B.A. 263 Business Policies .....	3 sem. hours
B.A. 265 Personnel Administration.....	3 sem. hours
B.A. 268 Business Research .....	3 sem. hours
B.A. 289 Job Evaluation and Methods Analysis .....	3 sem. hours

In addition the student, with the advice and approval of his adviser, will complete 12 semester hours of courses selected from those listed in the Economics, Management, Marketing, Industrial Arts, and Physical Science sections of this catalog.

*Insurance.* This field of specialization provides academic training for those interested in insurance sales, adjusting, and other insurance activities.

Students selecting this emphasis must complete B.A. 217, Money and Banking, to satisfy the College of Business Administration finance requirement.

The following 10 semester hours are required:

B.A. 189 General Insurance .....	2 sem. hours
B.A. 222 Life Insurance .....	2 sem. hours
B.A. 244 Fire Insurance .....	2 sem. hours
B.A. 245 Fire Insurance .....	2 sem. hours
B.A. 255 Casualty Insurance .....	2 sem. hours

In addition the student, with the advice and approval of his adviser, will complete 14 semester hours of courses selected from those listed in the Business Administration sections of this catalog. Under the same conditions, certain related courses also may be selected.

*Marketing Management.* This field of specialization is designed for (1) those students interested in the general aspects of marketing and not desiring a more specialized emphasis; or (2) those who wish to train for the assumption of marketing responsibilities in large business organizations.

The following 16 semester hours are required:

B.A. 174 Marketing Practices .....	3 sem. hours
B.A. 175 Introduction to Advertising .....	3 sem. hours
B.A. 281 Sales Management .....	3 sem. hours
B.A. 283 Marketing Analysis .....	3 sem. hours
B.A. 293 Price Policies .....	2 sem. hours
B.A. 294 Marketing Management .....	2 sem. hours

In addition the student, with the advice and approval of his adviser, will complete 12 semester hours selected from the courses listed in the Marketing and Advertising section of this catalog. Under the same conditions, a limited number of other related courses also may be selected.

*Office Training and Management.* This field of specialization is designed to train for managerial positions in business offices with special emphasis on management, machine operation and control, and personnel.

The following 7 semester hours are required:

B.A. 241 Office Appliances .....	2 sem. hours
B.A. 242g Office Organization and Management .....	3 sem. hours
B.A. 243g Office Management Techniques...	2 sem. hours

In addition the student, with the advice and approval of his adviser, will complete 17 semester hours of courses selected from those listed in the Office Training and Management, and the Management sections of this catalog. Under the same conditions, a limited number of related courses also may be selected.

*Personnel.* This field of specialization is designed for students interested in human relation aspects of business as exemplified by personnel administration and labor relations in business organizations and labor unions.

The following 12 semester hours are required:

E.A. 219 Labor Relations .....	3 sem. hours
B.A. 265 Personnel Administration .....	3 sem. hours
Psych 114 Applied Psychology .....	3 sem. hours
Psych. 225 Social Psychology .....	3 sem. hours

In addition the student, with the advice and approval of his adviser, will complete 12 semester hours of courses selected from those listed in the Business Administration, Education, Psychology, and Sociology sections of this catalog.

*Purchasing.* This field is designed to provide academic training for the purchasing and industrial procurement professions.

The following 13 semester hours are required:

B.A. 174 Marketing Practices .....	3 sem. hours
B.A. 250 Production Management and Control .....	3 sem. hours
B.A. 279 Wholesaling .....	2 sem. hours
B.A. 284 Purchasing .....	3 sem. hours
B.A. 293 Price Policies .....	2 sem. hours

In addition, the student, with the advice and approval of his adviser, will complete 15 semester hours of courses selected from those listed in the Marketing and Advertising section of this catalog. Under the same conditions, a limited number of other related courses also may be selected.

*Real Estate.* This field of specialization provides training in selling, management, and appraisal of real estate, title searcher, and other related professions in the field.

The following 14 semester hours are required:

B.A. 151 Introduction to Real Estate.....	3 sem. hours
B.A. 152 Real Estate Management .....	3 sem. hours
B.A. 171 Introduction to Selling.....	2 sem. hours
B.A. 251 Advanced Real Estate.....	3 sem. hours
B.A. 252 Real Estate Law.....	3 sem. hours

In addition the student, with the advice and approval of his adviser, will complete 10 semester hours of courses selected from those

listed in the Business Administration, Sociology, Industrial Arts, Architecture, Agriculture, Political Science, and Home Economics sections of this catalog.

*Retailing.* This field of specialization is designed to prepare students for positions as stock supervisors, buyers, and junior executives in retail stores, or for management of their own retail establishments.

The following 17 semester hours are required:

B.A. 171 Introduction to Selling .....	2 sem. hours
B.A. 174 Marketing Practices .....	3 sem. hours
B.A. 175 Introduction to Advertising.....	3 sem. hours
B.A. 277 Principles of Retailing .....	3 sem. hours
B.A. 278 Retail Store Management .....	3 sem. hours
B.A. 283 Marketing Analysis .....	3 sem. hours

In addition the student, with the advice and approval of his adviser, will complete 11 semester hours of courses selected from those listed in the Marketing and Advertising section of this catalog. Under the same conditions, a limited number of other related courses also may be selected.

*Selling.* This field of specialization is designed to train for the professional career of selling and sales executive positions.

The following 16 semester hours are required:

B.A. 171 Introduction to Selling .....	2 sem. hours
B.A. 174 Marketing Practices .....	3 sem. hours
B.A. 175 Introduction to Advertising .....	3 sem. hours
B.A. 280 Advanced Selling .....	2 sem. hours
B.A. 281 Sales Management .....	3 sem. hours
B.A. 283 Marketing Analysis .....	3 sem. hours

In addition the student, with the advice and approval of his adviser, will complete 10 semester hours of courses selected from those listed in the Marketing and Advertising section of this catalog. Under the same conditions, a limited number of other related courses also may be selected.

## Special Programs

### Certified Professional Secretaryship

The College of Business Administration, in cooperation with the National Secretaries' Association, is offering special extension courses which are preparatory to the national examinations for the Certified Professional Secretary (CPS) certificate. Arizona State College at Tempe has been designated by the national examining board as the Arizona testing center for the CPS certificate. This examination is given annually at the College at a time designated by the National Secretaries' Association.

Four-year students, who are looking ahead to the CPS certificate, should indicate these plans to their adviser so that a proper program can be arranged for them.

## Pre-Law

A comprehensive statement of pre-law college work before entering law school is presented in the College of Liberal Arts section of this catalog.

Pre-Law students may pursue a program of study in the College of Business Administration as well as in the College of Liberal Arts. The value of a thorough understanding of the principles and practices in business is apparent. In addition to elementary courses in Business Administration, certain more advanced courses are clearly indicated because of their practical importance to the lawyer. These include courses in Economics, Corporation Finance, Insurance, Statistics, Taxation, Public Finance, Labor Relations, Public Control of Business, and Accounting. Accounting is especially valuable, affording as it does, an understanding of the meaning and interpretation of balance sheets, income statements, etc. It is a part of the "language of the lawyer."

Students interested in Business Administration and Law may secure a Bachelor of Science degree with an area of concentration in Business Administration and a Law degree from an accredited law school in six years providing the law school selected will admit students upon completion of only three years of college work.

Under this program the student must register in the College of Business Administration and must complete 98 semester hours of class work. Included among these semester hours must be all General Education requirements and departmental required courses. This will normally require the 51 or 52 semester hours in General Education and non-business courses as outlined on pages 144-146 and the 32 semester hours of basic business courses required by the College of Business Administration described on page 146 of this catalog. Additional courses required to complete the required 98 semester hours will be determined by the student's Business Administration and the pre-law adviser and will be in accordance with all applicable requirements as described in this catalog. A point-ratio of 2.0 or above in all courses taken is required. Students who pursue this six-year program must obtain a statement in writing from the Dean of the College of Business Administration giving senior-in-absentia privileges before entering the law school. At the end of his first year in law school, the student must have completed a total of 126 hours of college credit in pre-law and law combined and must have maintained an average of C or better in law school. He must then present a signed testimonial from the Dean of the Law School to the Registrar at Arizona State College, Tempe, which shall include a statement of courses taken, grades achieved, and a recommendation that the degree of Bachelor of Science be granted by this college.

Students planning a pre-law program in Business Administration, whether for the combined six-year program as indicated above or merely for a non-degree elective program, should consult their business administration adviser and the pre-law adviser in the College of Business Administration in the freshman year and work out a

program of studies which will satisfy the entrance requirements of the law school or schools in which he is interested and which will meet the requirements of Arizona State College.

If the student plans to complete his Bachelor of Science degree in Business Administration at Arizona State College, Tempe, before entering the law school, he should select a field of specialization in Business Administration not later than the beginning of his sophomore year, and, in consultation with his Business Administration adviser, work out a program of studies which will satisfy the entrance requirements of the law school or schools in which he is interested and which will meet the requirements for the Bachelor of Science degree at this College.

## Public Accounting

For those students who wish to prepare themselves for a professional career in public accounting, a carefully chosen list of courses is recommended. These courses have been selected to acquaint the student with the range of subject matter covered in the Certified Public Accountant's examination. The subjects covered by this professional examination are: (1) theory of accounts; (2) problems and practice; (3) auditing; (4) commercial law; and (5) business, finance, and federal and state taxation. Students who complete the professional accounting program are eligible to sit for the C.P.A. examination which is given in May and November of each year.

Students selecting the professional program in public accounting will take the 46 hours of selected courses listed below. Only 26 hours are required to meet the field of specialization requirement for the degree in accounting. The additional 20 hours are to be voluntarily selected by the student in order to meet the desired professional objective. It should be noted that completion of this professional program may result in the student graduating with more than the minimum of 126 hours required for graduation.

	Sem. Hours		Sem. Hours
B.A. 303 Advanced Accounting	3	B.A. 228 Budgetary Control	2
B.A. 204 Advanced Accounting	3	B.A. 229 Controllership	2
B.A. 207 Auditing	3	B.A. 230 Auditing	3
B.A. 208 Cost Accounting	3	B.A. 231 Cost Accounting	3
B.A. 209 Governmental Accounting	3	B.A. 291 Accounting Literature	2
B.A. 210 Income Tax	3	B.A. 292 Accounting Literature	2
B.A. 211 Income Tax	3	B.A. 143 Office Machines	2
B.A. 213 Mathematics of Accounting	2	B.A. 189 General Insurance	2
B.A. 214 Accounting Systems	2	Spch. 215 Business and Professional Speech	3

Completion of this professional program with a cumulative grade point index of 3.25 in all courses taken in this area entitles the student to a certificate of proficiency in academic preparation for the field of professional accounting.

## Non-Degree Programs

*Accounting—Two Year Program.* Designed for those students who plan to spend only two years in college. English, mathematics, business law, typing, and other related subjects are included for the purpose of preparing the student for a position as an accounting clerk in large organizations, bookkeeper for small establishments, and

positions requiring other clerical skills in addition to accounting. The list of courses set forth below outlines a well-rounded two year program. If the student can arrange to attend one or more summer terms, the program can be materially improved. The particular needs of the student may require changes in the program as outlined. All such changes should be made with the advice and consent of the accounting adviser.

FIRST YEAR					
First Semester		Hours	Second Semester		Hours
B.A. 101 Elementary Accounting	4		B.A. 102 Elementary Accounting	4	
Eng. 101 English	3		Eng. 102 English	3	
B.A. 143 Office Machines	2		B.A. 120 Projects in Typewriting	2	
B.A. 110 Techniques in Typewriting	2		B.A. 132 Principles of Economics	3	
B.A. 130 Introduction to Economics	3		B.A. 233 Business Communication	3	
R.O.T.C.	1.5		R.O.T.C.	1.5	
Physical Education	0.5		Physical Education	0.5	
		16			17

SECOND YEAR					
First Semester		Hours	Second Semester		Hours
B.A. 201 Intermediate Accounting	3		B.A. 202 Intermediate Accounting	3	
B.A. 189 General Insurance	2		B.A. 141 Mathematics of Business	2	
B.A. 208 Cost Accounting	3		B.A. 206 Business Law	3	
B.A. 205 Business Law	3		B.A. 103 Payroll Accounting	2	
Math. 105 Basic Mathematics	3		B.A. 214 Accounting Systems	2	
Military or Air Science	1.5		Military or Air Science	1.5	
Physical Education	0.5		Physical Education	0.5	
		16			14

*Accounting—One Year Program.* For those students who can attend college for only twelve months, or two semesters and two summer terms, a program is arranged to prepare such students to take positions as accounting clerks in larger firms and to undertake certain positions with small business organizations. Although the positions indicated for the student under the one-year program appear to be about the same as those set forth under the two-year program, it should be understood that the student cannot be as well trained and prepared in one year as is possible with the additional time devoted to the two-year program. The student should consult with his accounting adviser and choose those courses which will best fit his particular training and experience. The following program is believed to be adaptable to the needs of most one-year students:

First Semester		Hours	Second Semester		Hours
B.A. 101 Elementary Accounting	4		B.A. 102 Elementary Accounting	4	
Eng. 101 First Year English	3		Eng. 102 First Year English	3	
Math. 105 Basic Mathematics	3		B.A. 141 Mathematics of Business	2	
B.A. 110 Techniques in Typewriting	2		B.A. 103 Payroll Accounting	2	
B.A. 143 Office Machines	2		B.A. 233 Business Communication	3	
R.O.T.C.	1.5		R.O.T.C.	1.5	
Physical Education	0.5		Physical Education	0.5	
		15			16
First Summer Term		Hours	Second Summer Term		Hours
B.A. 191 Intermediate Accounting	3		B.A. 192 Intermediate Accounting	3	
B.A. 189 General Insurance	2		B.A. 120 Projects in Typewriting	2	
		5			5

*Office Training—Special One-Year and Two-Year Programs.* These programs are designed to develop the skills and traits necessary for the better beginning jobs in the modern office. Students with the basic courses in typewriting and shorthand are permitted to enter the advanced courses. Programs may be tailored to fit the individual's objectives.



A suggested program for a student with high school typewriting and shorthand:

<b>FIRST YEAR</b>					
First Semester		Hours	Second Semester		Hours
Eng. 101	First Year English	3	Eng. 102	First Year English	3
B.A. 120	Intermediate Typing	2	B.A. 121	Projects in Typing	2
B.A. 185	Advanced Shorthand and		B.A. 186	Transcription	3
	Transcription	3	B.A. 130	Introduction to Economics	3
Psych. 100	Elementary Psychology	3	B.A. 143	Office Machines	2
P.E. 100	Basic Physical Education	0.5	P.E. 100	Basic Physical Education	0.5
Electives		4 or 5	Electives		2 or 3
15.5 or 16.5			15.5 or 16.5		

<b>SECOND YEAR</b>					
First Semester		Hours	Second Semester		Hours
B.A. 101	Elementary Accounting	4	B.A. 131	Payroll Accounting	2
Speech 100	Elements of Speech	2	B.A. 238	Sec. Office Practice	3
B.A. 233	Business Communication	3	B.A. 241	Office Appliances	2
B.A. 236	Legal Secretaryship or		Physical Education		0.5
	237 Medical-Dental Terminology	2	Electives		8 or 9
	Physical Education	0.5			
Electives		4 or 5			
15.5 or 16.5			15.5 or 16.5		

Suggested Electives: B.A. 102, Elementary Accounting; B.A. 132, Principles of Economics; B.A. 171, Introduction to Selling; B. A. 173, Principles of Marketing; B.A. 205, Business Law; B.A. 189, General Insurance; Jour. 130, Introduction to Journalism.

Additional information about these programs is available at the office of the Dean of the College of Business Administration.

# College of Applied Arts and Sciences

The College of Applied Arts and Sciences includes the Division of Agriculture and the Division of Technology and Industry. Four year curriculums are offered in both divisions leading to the Bachelor of Science degree. Special programs of studies of one, two, and three years, are available to students who do not plan to complete the four year degree curriculums.

In addition to sound academic preparation, through the courses offered in both divisions, emphasis is placed on the application of knowledge through practical experience on the farm and in the shop, laboratory, and studio. The applied emphasis, through first hand observation, participation, and actual experience in all phases of training, is the distinctive feature of the work offered in both divisions.

Pre professional programs are offered for students who plan to complete professional preparation in veterinary medicine, forestry, architecture, and engineering.

## Division of Agriculture

### Purpose

The primary purpose of agriculture training at the Arizona State College at Tempe is to prepare students for the production and management phases of agriculture. The curriculum and courses offered are planned to meet the needs of the following students: (1) Those who are interested in preparing for Farm and Ranch Management and who wish to obtain a degree of Bachelor of Science with emphasis on some particular phase of livestock or crop production. (2) Those preparing for a career in some phase of agriculture production and who wish to obtain a degree of Bachelor of Science with a field of specialization in Crop Production or Livestock Production. (3) Those not planning to graduate but desiring to take one or more years of college training as a preparation for some agricultural vocation. (4) Those who wish to take certain electives in agriculture while pursuing another curriculum at the college. (5) Those who desire pre-forestry or pre veterinary training.

## Organization

Courses of Instruction in the Division of Agriculture are offered in three general areas with subdivisions as follows:

- Farm Management & Economics
- Crop Production
  - Agronomy
  - Horticulture
  - Agricultural Mechanics
- Livestock Production
  - Animal Husbandry
  - Dairy Husbandry
  - Poultry Husbandry

For counsel and assistance in planning his program of study a student will select an adviser from the instructional staff in his special interest field.

## Bachelor of Science Degree Curriculum in Agriculture

The completion of a four-year agriculture curriculum leads to the Bachelor of Science degree. A total of 126 semester hours of credit is required for graduation including the general education and field of specialization requirements as outlined below:

### General Education

1. *Communications* ..... 8 sem. hours
  - Eng. 101, 102 ..... 6 sem. hours
  - Spch. 110 or 115 ..... 2 sem. hours
2. *Humanities* ..... 8 sem. hours

#### Option I

Eight semester hours to be selected from the following, not more than one course in a subject:

- Arch. 100; Art 100, 211, 212;
- Eng. 153, 154, 171, 172, 221, 222; For. Lang. 100; Mus. 110, 130; Phil. 100, 204 ..... 8 sem. hours

#### Option II

- Hum. 101, 102 ..... 6 sem. hours
- One course to be selected from the following:
- Art 211, 212; Eng. 153, 154, 221, 222; For. Lang. 100;
- Mus. 110; Phil. 204 ..... 2-3 sem. hours

3. *Social Sciences* ..... 9 sem. hours
- Option I**
- Hist. 101, 102 or Hist. 103, 104... 6 sem. hours  
 One course to be selected from  
 the following:  
 Anthro. 125; B.A. 115, 130;  
 P.S. 101; Soc. 120 ..... 3 sem. hours
- Option II** (Not offered 1955-56)
- Year course — Introduction to  
 the Social Sciences ..... 6 sem. hours  
 One course to be selected from  
 the following:  
 Hist. 101, 102, 103, 104 ..... 3 sem. hours
4. *Sciences* ..... 14 sem. hours
- At least one course to be selected  
 from each of the following  
 groups:
- Group 1. Physical Sciences—  
 Chem. 110, 112; Geog. 100;  
 Geol. 151; Phys. 105, 110, 112.  
 Group 2. Biological Sciences—  
 Bot. 110; Zool. 110, 112.  
 Group 3. Mathematics—  
 Math. 105, 106, 107, 118, 119.
5. *Health and Adjustment* ..... 7 sem. hours
- Physical Education Activity ..... 2 sem. hours  
 H.E. 100 ..... 2 sem. hours  
 Psych. 100 ..... 3 sem. hours

### Field of Specialization Requirements

In addition to the academic requirements outlined, students are required to demonstrate ability in the practical phases of production and husbandry related to their field of specialization. Students without adequate farm background can gain experience in farm practices at the College Training Farm or on any farm that meets the approval of the adviser. Upon application for graduation, the student's adviser will indicate satisfactory completion of this requirement.

*Farm Management.* This field of specialization is designed to prepare students to enter the business of farming and ranching as operators or managers of productive agricultural enterprises. Within this field students may specialize in the management of crop production or livestock production enterprises. The field includes three important requirements: (1) Training in agricultural economics and management; (2) Training in the applied sciences or agricultural production; (3) Practical experience in production and management.

To meet the requirements of a field of specialization in Farm Management, the following courses are required: Ag. 101, 105, 107,

121, 144, 161, 163 and 200. In addition, students are required to complete 24 hours in Farm Management and Economics and at least 15 hours in some phase of Livestock Production or 15 hours in some phase of Crop Production.

The practical experience program is initiated at the College Training Farm at the beginning of the sophomore year. During the junior and senior year this experience program will be planned to meet individual student needs and will be carried out under the supervision of the student's adviser.

*Crop Production.* This field of specialization is designed for students desiring practical training in crop production. It prepares students for positions as field representatives for commercial fertilizer and insecticide companies, for machinery companies, and other businesses associated with crop production. It also provides valuable training for students preparing for positions as field foremen on farms and ranches, or as agronomists with U. S. Government or state agencies where practical knowledge is essential.

For the student who wishes to continue his training toward an advanced degree in agronomy this field of specialization will give him the basic courses. With the help of his adviser, he should select additional science courses which will provide an adequate foundation for advanced study.

To meet the requirements of this field of specialization, the following courses are required: Ag. 101, 105, 121, 144; Chem. 180 and Biol. 204. In addition, students are required to complete 24 hours in some phase of Crop Production and at least 15 hours of supporting work in a related field.

*Livestock Production.* This field of specialization is designed to develop within the student a sound understanding while learning the practical application of the principles of livestock husbandry. The student learns to select, breed, feed and manage livestock in an efficient and economical manner. The livestock production curriculum while developing leadership, provides valuable training for the student preparing for ownership or for the position of herdsman of a beef, dairy, poultry, sheep, or swine enterprise. It prepares students for positions as field representatives for breed organizations, meat and milk processing plants, feed manufacturers and distributors, hatcheries and other businesses associated with the livestock industry. It also prepares students for work with Federal, State and local governmental agencies requiring specialized training in the practical phases of livestock production. Students who desire further training toward an advanced degree should consult their adviser, and choose elective courses that will adequately prepare them for advanced study.

To meet the requirements of this field of specialization, the following courses are required: Ag. 101, 105, 121, 144; Chem. 180, and Biol. 204. In addition, students are required to complete 24 hours in some phase of Livestock Production and at least 15 hours of supporting work in a related field.

## Special Programs

### Agriculture Education

The first two years of the curriculum preparing students to teach vocational agriculture in the high school is offered as a special program. Students should consult their adviser and select their courses to meet the requirements of the college from which they plan to obtain their agriculture education degree.

### Pre-Veterinary and Pre-Forestry

The requirements for the first two years of courses in forestry and veterinary work vary considerably in the different colleges offering these programs. The student is advised to obtain a copy of the catalog from the school he plans to attend and select his program accordingly. The following course of study will meet most of the requirements if the student carefully selects electives to meet the requirements of the college that he plans to attend.

PRE-VETERINARY		FIRST YEAR		
First Semester		Hours	Second Semester	Hours
Eng. 101 First Year English	3	Eng. 102 First Year English	3	
Zool. 111 General Zoology	4	Zool. 112 General Zoology	4	
Chem. 110 or 111 General Chemistry	4	Chem. 112 General Chemistry	5	
Math. 107 College Algebra	3	Math. 118 Trigonometry	3	
P. E. 107 Sports Survey (men)	0.5	P. E. 108 Sports Survey (men)	0.5	
M.S. 101 Basic Military Science or		M.S. 102 Basic Military Science or		
A.S. 101 Basic Air Science	1.5	A.S. 102 Basic Air Science	1.5	
	16		17	

SECOND YEAR		SECOND SEMESTER	
First Semester		Hours	Hours
Bot. 110 General Botany	4	Biol. 204 Genetics & Eugenics	3
Phys. 111 General Physics	4	Phys. 112 General Physics	4
Chem. 211 Gen. Organic Chemistry	4	Chem. 112 General Chemistry	5
P. E. Activity	0.5	P. E. Activity	0.5
M.S. 103 Basic Military Science or		M.S. 104 Basic Military Science or	
A.S. 103 Basic Air Science	1.5	A.S. 104 Basic Air Science	1.5
Electives	3	Electives	3
	17		16

PRE-FORESTRY		FIRST YEAR		
First Semester		Hours	Second Semester	Hours
Eng. 101 First Year English	3	Eng. 102 First Year English	3	
Bot. 110 General Botany	4	Chem. 180 Organic Chemistry	4	
Math. 107 College Algebra	3	Math. 118 Trigonometry	3	
Chem. 110 or 111 General Chemistry	4	Bot. 171 Plant Anatomy	4	
P. E. Activity	0.5	P. E. 107 Sports Survey	0.5	
M.S. 101 Basic Military Science or		M.S. 102 Basic Military Science or		
A.S. 101 Basic Air Science	1.5	A.S. 102 Basic Air Science	1.5	
	16		18	

SECOND YEAR		SECOND SEMESTER	
First Semester		Hours	Hours
I. A. 103 Mechanical Drawing	3	I. A. 145 Elementary Surveying	3
Bot. 172 Plant Physiology	4	Bot. 242 Systematic Botany	4
Ag. 105 Soils	4	Ag. 200 Conservation of Ag. Resources	3
Zool. 111 General Zoology	4	Zool. 210 Entomology	4
P. E. Activity	0.5	P. E. 108 Sports Survey	0.5
M.S. 103 Basic Military Science or		M.S. 104 Basic Military Science or	
A.S. 103 Basic Air Science	1.5	A.S. 104 Basic Air Science	1.5
	17		16

## Division of Technology and Industry

### Purpose

The Division of Technology and Industry offers four year curriculums, the satisfactory completion of which, lead to the degree of Bachelor of Science in the following fields of specialization: aeronautics, building and construction, industrial and architectural drafting and design, electronics, industrial arts, and mechanics.

The fields of specialization indicated above afford excellent training and preparation in the techniques, skills, and processes essential to the complex requirements of highly specialized industrial, technical, and commercial occupations, together with an insight in the organization and administration of these fields, that assure the future progress and success of the student.

In the field of specialization "Industrial Arts," opportunity is given students to select courses, with the aid of an adviser, which prepare students for such professional occupations as building superintendent, chief electrician, master mechanic, and manual arts therapist.

This division also provides educational and technical training and experience of a professional character for young men and women who plan to become teachers of the industrial arts in the kindergarten primary, elementary, and secondary schools.

Students who do not wish to graduate under the Bachelor of Science degree curriculum, but who desire to secure specialized training at the college level in industrial activities which will enable them to participate immediately in industrial pursuits, may choose one of the following two-year courses: (1) Aeronautics; (2) Architectural Drafting; (3) Building and Construction; (4) Electronics; (5) Industrial Drafting; (6) Mechanics.

### Organization

The courses of instruction offered by the Division of Technology and Industry are organized under the following subject fields: Aeronautics; Building and Construction; Drafting; Electricity and Electronics; Mechanics; Industrial Arts Education; and Architecture.

## Bachelor of Science Degree Curriculum in Technology and Industry

The satisfactory completion of a four-year curriculum of 126 hours, including the general education and field of specialization requirements as outlined below, leads to the degree of Bachelor of Science.

## General Education

1. *Communications* ..... 8 sem. hours  
     Eng. 101, 102 ..... 6 sem. hours  
     Spch. 110 or 115 ..... 2 sem. hours

2. *Humanities* ..... 8 sem. hours

**Option I**

Eight semester hours to be selected from the following, not more than one course in a subject ..... 8 sem. hours  
 Arch. 100; Art 100, 211, 212;  
 Eng. 153, 154, 171, 172, 221, 222; For. Lang. 100; Mus. 110, 130; Phil. 100, 204.

**Option II**

Hum. 101, 102 ..... 6 sem. hours  
 One course to be selected from the following:  
 Art 211, 212; Eng. 153, 154, 221, 222; For. Lang. 100;  
 Mus. 110; Phil. 204 ..... 2-3 sem. hours

3. *Social Sciences* ..... 9 sem. hours

**Option I**

Hist. 101, 102 or Hist. 103, 104.... 6 sem. hours  
 One course to be selected from the following:  
 Anthro. 125; B.A. 115, 130;  
 P.S. 101; Soc. 120 ..... 3 sem. hours

**Option II (Not offered 1955-56)**

Year course — Introduction to the Social Sciences ..... 6 sem. hours  
 One course to be selected from the following:  
 Hist. 101, 102, 103, 104 ..... 3 sem. hours

4. *Sciences* ..... 14 sem. hours

At least one course to be selected from each of the following groups:

Group 1. Physical Sciences—  
 Phys. Sci. 100, 200; Chem. 110, 112; Geog. 100; Geol. 151;  
 Phys. 105, 110, 112.

Group 2. Biological Sciences—  
 Biol. 100; Bot. 110; Zool. 110, 112.

Group 3. Mathematics—  
 Math. 105, 106, 107, 118, 119.



5. <i>Health and Adjustment</i> .....	7 sem. hours
Physical Education Activity .....	2 sem. hours
H.E. 100 .....	2 sem. hours
Psych. 100 .....	3 sem. hours

### Field of Specialization Requirements

A field of specialization consists both of required and optional courses within the selected field of emphasis.

*Aeronautics.* For a field of specialization in aeronautics it is assumed that the average student has a limited technical education in aeronautics. Under this assumption, an attempt is made to give an insight into, and understanding of, the complicated theories involved in aeronautics by emphasizing elementary individual phases of the work and their practical application. This combination of theory and practice makes for ready understanding of the technical aspects of meteorology, radio, navigation, aerodynamics, and aircraft mechanics. Aeronautic students learn enough about the theory and practice of related subject matter to practice flying, do mechanical work, or give instructions in aeronautics. The proper use of navigation aids, weather aids, and training facilities, provided by the government are also taught.

*Required Courses.* The student, with the aid of his adviser, will choose the required industrial arts courses from the following group: T. I. 100, 101, 103, 104, 105, 108, 111, 113, 114, 115, 119, 124, 126, 127, 130, 131, 145, 155, 160, 179, 200, 202, 220, 225, 234, 269, 286, 290, 291, 292, 298; I.A. 109, 211.

*Building and Construction.* This field of specialization provides for special training in the building and construction industry. The subject matter, shop experiences, and training provided in this area are designed to prepare the students for efficient service as builders, contractors, and estimators.

*Required Courses.* The student, with the aid of his adviser, will choose the required courses from the following group: T. I. 100, 103, 105, 106, 110, 121, 122, 134, 145, 151, 154, 160, 207, 208, 213, 217, 218, 222, 223, 258, 268, 283, 285, 286, 290, 291, 292; I.A. 109, 211; Arch. 160, 161.

*Optional Courses.* The student, with the aid of his adviser, will choose the optional courses from the following group: T. I. 124, 136, 163, 179, 201, 224, 233, 236, 245, 260, 262, 264, 280, 284, 285. Recommended courses: Bus. Ad. 101, 102, 103, 141, 205, 206.

*Industrial and Architectural Drafting and Design.* This field of specialization is designed for students, who desire to become draftsmen in manufacturing plants or architects' offices, who desire to qualify under various civil service programs .

The subject matter and instructions are both carefully planned to give the student a good scientific background, experience in manufacturing processes, a knowledge of materials industrially and commercially used, and also, intensive drafting practice geared to modern industrial and commercial needs.

Emphasis on Industrial Drafting and Design. Required courses. The student, with the aid of his adviser, will choose the required courses from the following group: T. I. 100, 103, 105, 109, 111, 112, 113, 114, 122, 123, 124, 125, 134, 145, 155, 160, 161, 179, 201, 202, 211, 246, 254, 266, 267, 286, 290.

Optional Courses. The student, with the aid of his adviser, will choose the necessary optional courses from the following group: T. I. 110, 154, 157, 208, 224, 233, 258, 268, 280, 291, 292.

Emphasis on Architectural Drafting and Design. Required Courses: Arch. 100, 120, 121, 130, 140, 150, 160, 161, 180, 181, 220, 221, 241, 260, 261; T. I. 100, 105, 124, 145, 157, 208, 211, 245, 253, 262, 267, 283, 291, 292.

Optional Courses. T. I. 122, 134, 161, 207, 217, 218, 222; Arch. 120, 121, 130, 141, 181.

*Electronics.* This field of specialization is designed for those students contemplating entering the fields of radio broadcasting, television broadcasting, industry, the military or naval services, research and design, where a comprehensive theoretical, practical, and technical knowledge of electronics and allied fields is required.

This field of specialization provides sufficient preparation of a professional character especially needed for those students who desire successful careers in commercial broadcasting and television station operation, maintenance, and repair; radar and other military applications of electronics; industrial application of electronics; and commercial activities associated with the field of electronics.

Laboratory work is done under supervision in the electronics laboratories, the mobile communications and radar laboratories, in the various campus studios, and at the various radio stations in the Phoenix area cooperating with the college electronic program.

Provision is made for those students who prefer a greater emphasis on D. C. and A. C. electricity and machinery. Consult with your adviser.

Required Courses. The student, with the aid of his adviser, will choose the required courses from the following group: T. I. 100, 109, 111, 113, 115, 116, 119, 120, 127, 140, 160, 165, 203, 211, 219, 251, 259.

Optional Courses. The student, with the aid of his adviser, will choose the optional courses from the following groups: T. I. 101, 103, 108, 124, 145, 154, 155, 161, 179, 205, 215, 216, 228, 251, 254, 265, 272, 273, 279, 281, 282, 286, 290, 291, 292; Math. 107, 118, 120, 123; Physics 111 and 112, or 121 and 122.

*Industrial Arts.* This field of specialization is designed for those students who desire a broad training in the field of industrial arts. By following this program, the student will gain an insight into several phases of industrial arts work, shop practices, and techniques. This area will provide excellent preparation for those who desire to be foremen, inspectors, managers, salesmen, supervisors or shop owners. This curriculum is also recommended for those students who

desire to fit themselves for the position of manual arts therapist and for employment by the Veterans Administration in the Physical Medicine and Rehabilitation Service, as specified in Civil Service Bulletin M5 3, Part 1, Change 45, April 1, 1949.

**Required Courses.** The following 17 semester hours or their equivalent are required: T. I. 100, 111, 113, 122, 160; I.A. 109, 211.

**Optional Courses.** The student must select a minimum of 15 semester hours from one of the five special emphases. In addition, he must select a minimum of 30 hours which may be chosen from any of the courses offered by the division. All selections made by the student should have the approval of the adviser.

**Emphasis on Aeronautics:** T. I. 126, 130, 131, 132, 153, 179, 200, 204, 205, 220, 225, 234, 269, 298.

**Emphasis on Building and Construction:** T. I. 105, 106, 134, 136, 145, 154, 164, 207, 208, 217, 218, 222, 224, 245, 258, 270, 283, 284, 285, 286, 291, 292; Arch. 160, 161.

**Emphasis on Drafting:** T. I. 103, 105, 106, 113, 123, 124, 125, 141, 145, 154, 155, 156, 165, 201, 224, 225, 258, 262, 270, 271, 276, 277, 278, 284, 285, 291, 292, 294, 295; Arch. 100, 120, 121, 130, 140, 141, 150, 160, 161, 220, 221, 240, 241, 250, 260, 261; I.A. 212.

**Emphasis on Electricity and Electronics:** T. I. 115, 116, 119, 120, 127, 154, 165, 203, 205, 215, 216, 219, 249, 251, 256, 259, 272, 273, 281, 282, and/or 101, 108, 223, 228, 279.

**Emphasis on Mechanics:** T. I. 101, 104, 107, 111, 112, 131, 145, 154, 157, 160, 179, 213, 223, 226, 227, 228, 231, 232, 233, 261, 262.

*Mechanics.* This field of specialization is designed to meet the needs of those students who are preparing themselves for service in welding and machine shops, garages, and other industrial and commercial pursuits.

**Required Courses.** T. I. 100, 101, 103, or 113, 104, 109, 111, 112, 134, 154, 155, 156, 157, 160, 179, 201, 213, 223, 227, 228, 231, 232, 233, 241, 275, 288; I.A. 211.

## Special Programs

### Architecture

This curriculum is similar to that of the first three years at institutions conferring a five year professional degree in Architecture. Students desiring to obtain such a degree are advised to secure a copy of the catalog of the school they plan to attend and select their programs accordingly. Students credited with advanced standing on the basis of work done at other institutions and those interested in other fields of building construction or teaching may in any year undertake in part the work of more advanced years, subject to the completion of courses listed as prerequisites. Students are required to earn a mark of C or better in each design course before advancing to the next.

FIRST YEAR

First Semester		Hours	Second Semester		Hours
Eng. 101 First Year English	3		Eng. 102 First Year English	3	
Math. 119 Algebra and Trigonometry	4		Art 105 Basic Design	2	
Arch. 100 Introduction to Architecture	2		Arch. 110 Descriptive Geometry	3	
Chem. 110 Introductory Chemistry	4		Math. 170 Analytical Mechanics- Statistics	3	
Art 101 Drawing and Perspective (Freehand)	2		Phys. 110 Introduction to Physics	4	
M.S. 101 Basic Military Science or A.S. 101 Basic Air Science	1.5		M.S. 102 Basic Military Science or A.S. 102 Basic Air Science	1.5	
P.E. 107 Sports Survey (Men)	0.5		P. E. 108 Sports Survey (Men)	0.5	
		17			17

SECOND YEAR

Arch. 120 Introduction to Design	3		Arch. 121 Architectural Design	3	
Arch. 160 Elementary Working Drawings	2		Arch. 161 Architectural Working Drawings	2	
Arch. 150 Arch. Sketching & Rendering	3		Arch. 270 Design and Planning in Wood	3	
Arch. 140 History of Architecture	3		Arch. 130 Landscape Design	2	
Arch. 112 Strength of Materials	3		Arch. 141 History of Architecture	3	
M. S. 103 Basic Military Science or A. S. 103 Basic Air Science	1.5		Art 171 Sculpture	2	
P. E. Activity	0.5		M.S. 104 Basic Military Science or A. S. 104 Basic Air Science	1.5	
		16	P. E. Activity	0.5	
					17

THIRD YEAR

Arch. 220 Architectural Design	5		Arch. 221 Architectural Design	6	
Arch. 260 Architectural Working Drawings	2		Arch. 261 Architectural Working Drawings	2	
Arch. 180 Mechanical Equipment in Buildings	2		Arch. 181 Mechanical Equipment in Buildings	2	
Arch. 271 Design and Planning in Steel	3		Arch. 272 Design and Planning in Concrete	3	
Arch. 190 Specifications and Estimating	2		Arch. 250 Architectural Sketching and Rendering	3	
Arch. 240 Theory of Architecture	2		Arch. 241 Theory of Architecture	2	
		16			17

Pre-Engineering

Completion of the following curriculum will fulfill the lower division requirements for a degree in general engineering. The pre-engineering student is urged to obtain a catalog of the engineering school that he plans to attend, and alter the following curriculum to meet the lower division requirements of that school. The student's choice of courses for electives depends on whether he plans to specialize in civil, mechanical, chemical or electrical engineering.

FIRST YEAR

First Semester		Hours	Second Semester		Hours
Eng. 101 First Year English	3		Eng. 102 First Year English	3	
Chem. 111 General Chemistry	4		Chem. 112 General Chemistry	5	
T. I. 113 Engineering Drawing	3		Math. 120 Analytic Geometry	4	
Math. 119 Algebra & Trigonometry	4		T. I. 124 Description Geometry	3	
P. E. 107 Sports Survey (men)	0.5		P. E. 108 Sports Survey (men)	0.5	
M.S. 101 Basic Military Science or A.S. 101 Basic Air Science	1.5		M.S. 102 Basic Military Science or A.S. 102 Basic Air Science	1.5	
		16			17

SECOND YEAR

(Civil Engineering Option)

T. I. 145 Surveying	3		T. I. 280 Advanced Surveying	3	
Math. 122 Differential Calculus	4		Phys. 122 Engineering Physics	5	
Phys. 121 Engineering Physics	5		Math. 123 Integral Calculus	4	
T. I. 134 Materials of Construction	2		*Bus. Ad. 130 Introd. to Economics or T. I. 224 Estimating & Contracting	3	
P. E. Activity (men)	0.5		P. E. Activity (men)	0.5	
M.S. 103 Basic Military Science or A.S. 103 Basic Air Science	1.5		M.S. 104 Basic Military Science or A.S. 104 Basic Air Science	1.5	
		16			17

## (Chemical Engineering Option)

T. I. 135 Mechanisms.....	3	Chem. 142 Quantitative Analysis.....	4
Chem. 141 Quantitative Analysis.....	4	Math. 123 Integral Calculus.....	4
Math. 122 Differential Calculus.....	4	Phys. 122 Engineering Physics.....	5
Phys. 121 Engineering Physics.....	5	*Bus. Ad. 130 Introd. to Economics.....	3
P. E. Activity.....	0.5	P. E. Activity.....	0.5
M.S. 103 Basic Military Science or		M.S. 104 Basic Military Science or	
A.S. 103 Basic Air Science.....	1.5	A.S. 104 Basic Air Science.....	1.5
	18		18

## (Electrical and Mechanical Engineering Option)

T. I. 145 Surveying.....	3	P.S. 101 Introd. to Political Science or	
Math. 122 Differential Calculus.....	4	T. I. 209 Surveying.....	3
Phys. 121 Engineering Physics.....	5	Math. 123 Integral Calculus.....	4
T. I. 155 Mechanisms.....	3	Phys. 122 Engineering Physics.....	5
P. E. Activity.....	0.5	*Bus. Ad. 130 Introd. to Economics or	
M.S. 103 Basic Military Science or		T. I. 224 Estimating & Contracting	3
A.S. 103 Basic Air Science.....	1.5	P.E. Activity.....	0.5
		M.S. 104 Basic Military Science or	
		A.S. 104 Basic Air Science.....	1.5
	17		17

\* May be taken either semester.

## Two-Year Technical Curriculums

Students who do not wish to graduate with either the B.A. or B.S. degree, and who desire to secure specialized training on a college level in the industrial activities to enable them to participate immediately in industrial pursuits may choose one of the following two-year courses: (1) Aeronautics, (2) Architectural Drafting, (3) Building and Construction, (4) Electronics, (5) Industrial Drafting, and (6) Mechanics.

# Graduate Division

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## The Graduate Program

In March, 1937, an Act of the Thirteenth Legislature authorized the Arizona State Colleges to grant the advanced degree of Master of Arts in Education. A program of graduate work has been offered since the 1937 summer session.

In June, 1952, the Board of Regents of the University and State Colleges of Arizona authorized Arizona State College at Tempe to grant the degree of Doctor of Education.

In December 1954, the Board of Regents of the University and State Colleges of Arizona authorized Arizona State College at Tempe to grant the Education Specialist degree.

*Organization.* The Graduate Council is responsible for the development and formulation of general policies and for the approval of procedures essential to the organization and administration of the graduate program. The members of the Council are appointed by the President of the College. The Director of Graduate Study acts as chairman of the Graduate Council and is directly responsible for the administration of its policies and program.

*Purposes:* The graduate program of Arizona State College at Tempe has for its primary purpose the preparation of professionally competent teachers and other educational workers. To serve this purpose graduate work leading to the degree of Master of Arts in Education, to an Education Specialist degree, and to the degree of Doctor of Education is provided.

The graduate program is designed to serve not only the needs of students who desire advanced degrees in Education, but to meet the needs of students who may wish to continue their professional preparation, meet certification requirements, or broaden their education without reference to the requirements for a degree.

## Admission to Graduate Work

A student who has received the bachelor's degree, or its equivalent, from an approved college or university, may be admitted to the Graduate Division at Arizona State College at Tempe upon filing with the Director of Graduate Study an Application for Admission. Admission to the Graduate Division permits the student to register in any course, graduate or undergraduate, for which he has sufficient background and which meets his needs and interests. *Admission to the Graduate Division does not commit the student to a program of*

*studies leading to an advanced degree, nor does admission to the Graduate Division imply enrollment in the Master's Degree Program, Doctorate Program, or Education Specialist degree program, or admission to candidacy for the degree.*

Students who declare their intention of entering upon a program of graduate work to meet the requirements for an advanced degree must (1) take a qualifying examination if their undergraduate index is under 2.50 (C+), and (2) file transcripts. These transcripts should be sent to the Office of the Director of Graduate Study. Transcripts filed with the Director of Graduate Study become the property of the College and may not be released.

Graduate students who desire to earn credit which will meet State certification requirements should have transcripts of all undergraduate and graduate work earned in institutions other than Arizona State College at Tempe sent to the Director of Certification, Office of the State Superintendent of Public Instruction, Arizona State Capitol Building, Phoenix, Arizona.

### Master of Arts in Education Degree

The interests, needs, abilities, and purposes of each student are utilized in organizing a unified and balanced program of work directed toward the realization of a definite and worthy educational objective. Programs of graduate work leading to the degree of Master of Arts in Education are provided for students who have as a central purpose preparation for primary, elementary, and secondary school teaching, administration and supervision of elementary and secondary schools, and special educational services such as audio-visual education, school library service, and counseling and guidance work. High scholarship and professional competency are required in at least one of these fields.

*Enrollment in the Master's Degree Program.* Students who wish to earn the master's degree must enroll in the Master's Degree Program as early as possible in the period of their residence so that they will not chance losing credits that might otherwise apply toward the requirements for the degree. Ordinarily, no more than twelve semester hours of graduate credit earned before enrollment in the Master's Degree Program may be applied toward the requirements for the degree.

Students may enroll in the Master's Degree Program at any time after being admitted to the Graduate Division by filing an Application for Enrollment in the Master's Degree Program. Applications and transcripts will be evaluated and the student will be enrolled when evidence of the following is found.

1. The student has earned a bachelor's degree in an approved institution and has a satisfactory undergraduate scholarship average.
2. The student has taken the qualifying examination.

3. The student's scholarship in any graduate work done elsewhere has been satisfactory.
4. The student has earned the prerequisite undergraduate credits in Education and Psychology courses.
5. The student has selected a field of graduate specialization for which he has the prerequisite undergraduate credits.
6. The student has been assigned a graduate adviser.
7. The student has planned a tentative graduate program of studies which has been approved by his graduate adviser.

*Program of Studies.* The degree of Master of Arts in Education is awarded for the satisfactory completion of an intensive study of a program in an educational field. Concentration of work for this degree is required, as contrasted with the diversification frequently prescribed in undergraduate studies. The student, in consultation with an adviser, plans this program of concentration under one of two plans.

Plan I. *With Research Study* (Thesis or Practicum). This program is designed for those students who have the desire to reach their objectives through research and individual study. It is especially recommended for those who wish to work toward a doctoral degree. The program shall consist of twenty-six semester hours of course work, including a research seminar, and four semester hours devoted to a research project (thesis or Practicum), according to the following school schedule:

- A. A minimum of 15 semester hours of credit in Education and Psychology courses numbered 300 and above.
  1. At least one course in each of the following areas:
    - a. Philosophy and social foundations.
    - b. Curriculum and methods.
    - c. Psychology.
  2. Two semester hours of credit in Educ. 300 (Educational Research and Scientific Method), or a similar research field.
  3. Four semester hours of credit earned by either one of the following choices:
    - a. Completing an acceptable master's thesis.
    - b. Completing an acceptable project in a practicum in the field of graduate specialization.
- B. Fifteen semester hours of credit in courses selected in consultation with the graduate adviser and directed toward the student's professional needs in the field of specialization.

Plan II. *Without Research Study.* This program is designed for those students who wish to reach their objectives through course work rather than through individual study and research. The student shall complete satisfactorily, a planned program of not less than thirty semester hours. At least fifteen semester hours must be taken in the field of Education; the remaining fifteen hours may be taken in the student's graduate field of specialization.



## Education Specialist Degree

The Education Specialist Degree program is designed to develop specialization in an area of education. At present the areas of specialization are: (1) Public School Administration, (2) Public School Supervision, (3) Curriculum, (4) Guidance and Counseling. The program requires a minimum of thirty semester hours of planned graduate work beyond the Master's Degree, plus a scholarly paper in a field of specialization. This degree is terminal and is not intended as an intermediate step toward the doctorate in education.

*Admission to the Degree Program.* Admission to the program must be cleared before the course work outlined in the total pattern is begun. Course work completed prior to admission to the program cannot be used to build the minimum pattern of the required thirty hours. In order to be eligible to apply for this degree, the applicant must:

1. Hold a Master's Degree with twenty or more graduate level semester hours in education and/or psychology.
2. Have an adequate background in the areas involved in his specialization plan.
3. Have an acceptable undergraduate and graduate scholastic average.
4. Have had two years of successful teaching experience.

An Admissions Committee, selected by the Graduate Council, will consider those applicants who have:

1. Filed an application.
2. Filed a transcript of all undergraduate and graduate work.
3. Prepared and filed a summary of educational experience.
4. Taken the qualifying examination which consists of an English Usage test and a professional test.

*Graduation Requirements.* In order to be eligible for graduation with the Ed. S. degree the following requirements must be met:

1. Complete within five years a thirty-semester hour approved program with no grade below a "B".
2. Complete an approved scholarly paper on some phase of the selected specialization. Four typewritten copies of this paper must be filed with the Director of Graduate Study two months before graduation after acceptance by the Committee and Dean of College of Education.
3. Pass a written and oral comprehensive examination over the work of specialization.

## Doctor of Education Degree

The doctor of Education Degree Program is designed to provide professional training and experience for a variety of workers in the broad field of education. The structure provides flexibility to meet individual needs and interests. The principal groups to be served by this program are as follows: (1) those seeking to increase professional competence as school administrators; (2) those seeking

further preparation for teaching in elementary, secondary, junior college, and higher education; and (3) those seeking advanced training in other recognized professional education pursuits.

*Admission to the Doctoral Program.* Students who seek admission to the Doctoral Program must assume the responsibility for the following:

1. Filing an application for admission.
2. Filing transcripts of all college work completed.
3. Submitting to a qualifying examination. (Students who seek admission to the Doctoral Program must submit to a qualifying examination. Ordinarily, this will include the Graduate Record examination. The qualifying examination is administered in December, April, June, and July. Application must be filed in the office of the Director of Graduate Study at least three weeks in advance. Fee, \$7.00.)
4. Filing letter of recommendation.

Applications, transcripts, and examination results will be evaluated by the Doctoral Committee on Admissions. This committee will be guided by the complete profile of each individual student and may consider the following criteria in determining his eligibility for the program.

1. Whether or not the student earned a bachelor's degree in an accredited institution and has a satisfactory undergraduate record.
2. Whether or not the student has satisfactory scholarship in any graduate work completed at Arizona State College at Tempe or elsewhere.
3. Whether or not the student has completed a satisfactory undergraduate program in Education and Psychology courses.
4. Whether or not the student has adequate background in general and professional education.
5. Whether or not the student has the scholastic aptitude and ability to the successful pursuit of a program of doctoral work in professional education.
6. Whether or not the student has filed for consideration letters or statements from persons in a position to judge his readiness for doctoral work.

Upon being admitted to the Doctoral Program on the basis of the above criteria, a doctoral advisory committee will be appointed, the chairman of which will be the student's adviser. The student should consult his adviser, plan a doctoral program of studies approved by his advisory committee and the Dean of the School of Education, and file that program in triplicate, in the Office of the Director of Graduate Study. This program should be planned and filed before the end of the first semester or summer session in residence.

*Program of Study for Doctor of Education Degree.* The degree of Doctor of Education is conferred on the basis of a high degree of attainment in the constructive study of an educational problem and

for demonstrated ability to pursue independent research in some phase of education. It is not conferred solely for the reason of faithful study for a prescribed period of time, nor as a certificate of the satisfactory completion of course requirements.

Experience shows that for students to meet the standards set, at least three years of study beyond the bachelor's degree are necessary. The amount of time a student needs to spend in residence depends to a large degree on his individual program of studies.

Transfer of credits from other recognized institutions is permissible. The amount and kind depends largely upon the objectives agreed upon between student and adviser. Regardless of how many may be accepted by transfer, a sufficient number of credits must be taken at Arizona State College to assure competency in the field the candidate selects. Minimum residence requirements must also be met.

In addition to course work, an acceptable dissertation is required. The dissertation carries no semester hours of credit.

All course work taken beyond the point of admission to the Doctoral Program must be completed, except by petition to and approval by the Graduate Council, within a period of seven consecutive years.

Upon making application for the final examination for the Doctor's degree, the candidate must submit evidence of at least two years experience either in teaching or other educational service.

## Graduate Courses

Graduate courses consist of those numbered 200g, 300 and 400. Courses open only to graduate students are numbered 300 and above and 400 and above. Courses open primarily to doctoral students are numbered 400 and above.

*Individual Problems.* A special type of graduate work is provided through Individual Problem courses. Individual Problem courses carry the number 390 in each department, including the College of Education; however, 490 is offered in the College of Education only.

1. 390. Ordinarily registration for such courses is limited to students who have been enrolled in the Master's Degree Program and have completed, or are currently registered for, five or more semester hours of graduate course work. Ordinarily not more than six semester hours in Individual Problem courses will be accepted toward the master's degree. Prior to registering for an Individual Problem course, the student must prepare a written statement of the title, purpose, and scope of the problem. This statement of the problem must be approved by the staff member under whose direction the problem is to be carried out, the student's graduate adviser and the Director of Graduate Study. Blanks for this purpose may be obtained in the Office of the Director of Graduate Study. A course fee may be required.

2. 490. Registration for Education 490 is limited to students who have been admitted to the Doctor of Education Degree Program. Wide latitude is provided for selection of a problem of major interest toward which the student may devote intensive effort, while under the direction of his major professor. Prior to registering for Education 490, the student must file with the Director of Graduate Study a statement of the problem approved by the major professor and the Dean of the School of Education. A course fee may be required.

### Graduate Bulletin

In the Graduate Bulletin will be found a detailed description of the Graduate Program at Arizona State College at Tempe. For a listing of the requirements for the degree of Master of Arts in Education, Education Specialist, and Doctor of Education, and other regulations governing graduate work, the student should refer to this Bulletin. Copies of the Graduate Bulletin and Applications for Admission to the Division may be obtained in the Office of the Director of Graduate Study.

# Summer Session

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*Terms.* The summer session consists of a one-week pre-session, two terms of five weeks each, and a post-session of three weeks.

*Air Cooling.* Most of the buildings are cooled by refrigeration systems. The other buildings are cooled by evaporative coolers.

*Forenoon Classes.* Most classes meet in the forenoon, leaving the afternoons open for study, reference reading, laboratory work, conferences with faculty members or recreation.

*College Credit.* Students are permitted to earn a maximum of six semester hours of credit each five-week session. Four semester hours is the maximum credit which may be earned in the three-week post session. In three ten-week summer sessions, the residence requirement of the college can be met. By attending summer sessions, students can graduate in three years or less.

*Admission to the Summer Session.* In general, applicants for admission are expected to present evidence of graduation from an approved four-year high school, or evidence of good standing in an accredited college. Mature students, over 21 years of age, are admitted without the above qualifications, but with the understanding that all admission requirements must be satisfied before they can become candidates for the bachelor's degree.

*Graduate Study.* The summer session offers an excellent opportunity for those who have already acquired a bachelor's degree to do graduate work for personal edification or to work for advanced degrees in Education.

*Fees and Expenses.* The summer school fee is \$7.50 per semester hour. Textbooks and supplies may be purchased at the college book store on the campus. Board and room for the summer are furnished on campus at the prevailing rates.

*Bulletin.* A preliminary announcement of the offerings will be mailed to the teachers in the State early in the year. Requests for the Summer Bulletin or other information should be addressed to the Director of Summer Session.

# Extension Division

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Many people who desire to continue their studies while actively engaged in their business or professional activities find it impossible to attend the regular sessions of the College. In response to this demand, the Extension Division has been established and offers two special types of service: extension courses offered at residence centers and correspondence courses. By these two methods, some regular college courses are made available to these people at a moderate cost.

In addition, the College offers radio service, speaker and consultant service, bureau of audio-visual aids, school visitations, published bulletins, and other means of assistance.

## Residence Center Classes

Residence centers will be organized where there is sufficient demand, when approved instructors are available, and when library or laboratory facilities are adequate to provide college-level instruction. A residence center and offering must be approved by the Director of Extension. Two types of programs are carried on at the Residence Centers: (1) recognized and accepted college credit courses that serve to meet degree requirements at the undergraduate and graduate levels, and (2) informal educational experiences for personal pleasure, general cultural advancement, refresher training courses, and the acquisition of new interests, without reference to college-level standards or credit. Courses taken in Residence Centers are counted as residence credit toward Bachelors degree requirements.

The fee for all extension courses is \$7.50 per semester hour, and is payable at the time of registration. For further information concerning residence center courses, write the Director of Extension.

## Correspondence Courses

Through the use of the mails, the privileges of the college campus and service of the teaching faculty are extended to the student whose daily occupation prevents enrollment in the regular sessions.

Persons desiring to enroll for correspondence courses will write to the Correspondence Division for an enrollment blank and a copy of the Bulletin which gives a list of the courses offered. When this enrollment blank, properly filled out and accompanied by remittance to cover the fee, is received, the first lesson assignments will be mailed to the student.

The fee for correspondence courses is \$7.50 per semester hour of credit carried. Credit earned in correspondence courses may be applied toward the bachelor's degree; however, not more than 16 semester hours of correspondence work will be accepted toward the degree. Correspondence courses are not accepted for credit toward the advanced degrees in Education.

No student doing work in residence may register for a course by correspondence without obtaining the approval of the Admissions and Standards Committee. All inquiries concerning correspondence courses should be addressed to the Correspondence Division.

# Courses of Instruction

Descriptions of all courses offered by the College during the regular academic year are found in the section which follows. Courses offered as "summer only" courses are not included in this section. For convenience instructional departments are arranged in alphabetical order.

## Classification of Courses

Courses numbered from 100-199 are lower division courses primarily for freshmen and sophomores. Courses numbered from 200-299 are upper-division courses primarily for juniors and seniors. Courses numbered 200g-299g may be taken by graduate students for graduate credit. Courses numbered 300 and above are graduate courses and may be taken only by graduate students. Courses numbered 400 and above are graduate courses primarily for students who have been admitted to the doctorate program in Education.

## Special Problem Courses

The course number 290 has been reserved for special problem courses at the undergraduate level in each of the departments of the College. These are honor courses given only to outstanding students capable of carrying on individual work effectively. The approval of the instructor and the head of the department must be obtained before a student will be registered for a special problem course. Freshmen and sophomores are not eligible to take special problems. A course fee may be required.

## Individual Problem Courses

The course number 390 has been reserved for individual problem courses at the graduate level in each department of the College, and, in addition, 490 has been reserved in the College of Education for individual problem courses for students who have been admitted to the Doctor of Education Degree program. For additional information regarding 390 and 490 individual problem courses see "Graduate Courses," pages 174-175. A course fee may be required.

## Starred Courses

In curriculum outlines, certain courses have a star placed in front of them. This indicates that the course is given both the first and second semester of that year. The desire is to have one-half of the students take the course the first semester, and the other half the second semester.

## Withdrawal of Courses

The College does not offer each year all of the courses listed in the catalog. The Schedule of Classes should be consulted for those courses offered each semester and during the summer terms.

## Cancellation of Scheduled Courses

The College reserves the right to cancel any course listed in the Schedule of Classes if the student enrollment is not sufficiently large to warrant offering it.

## Humanities

Hum. 101 *Introduction to the Humanities*. An integrated course designed to develop a discriminating appreciation of art, music, architecture, literature, philosophy, and religion, and to encourage an avocational interest in these fields. Credit, 3 hours.

Hum. 102 *Introduction to the Humanities*. A continuation of Hum. 101. Credit, 3 hours.

## Agriculture

ROBINSON (Head, Division of Agriculture), BARRETT, JUDD, MOODY, PARKER, RASMUSSEN, G. L. RICHARDSON, RIGGINS, TAYSOM.

## Agronomy or Crop Production

Ag. 101 *Crop Production*. The principles of field crop production. Special emphasis on cultural practices in Arizona. Prerequisite for all succeeding agronomy courses. Fee, \$1.00. Two lectures, 3 hours laboratory. Credit, 3 hours.

105 *Soils*. The formation, classification, and properties of soils; their relation to crop production; soil conservation. Prerequisite: one course in college chemistry. Fee, \$2.00. Three lectures or equivalent. Credit, 3 hours.

107 *Irrigation Principles and Practices*. History of irrigation, extent and importance, water measurements, application and conservation of irrigation water. Prerequisite: Ag. 105. Fee, \$1.00. Three lectures or equivalent in field work. Credit, 3 hours.

109 *Crop Production Practices*. Supervised farm experience in field crop production including operation of farm machinery, methods of tillage, planting, irrigation and harvesting. Prerequisites: Ag. 101 and approval of adviser. One discussion period, 2 four-hour laboratories. Credit, 3 hours.

110 *Crop Production Practices*. Continuation of Ag. 109. Credit, 3 hours.

150 *Projects in Agriculture*. Practical experience in agriculture production problems. Prerequisite: approval of adviser and head of department. Credit, to be arranged.

200 *Conservation of Agricultural Resources*. Basic course devoted to developing an understanding of the relationships of agricultural resources to society and the necessity for maximum production from the agricultural resources of land, water, timber, and minerals. Fee, \$2.00. Three lectures or equivalent in field work. Credit, 3 hours.



202 *Weeds and Weed Control*. Identification of weed seeds and plants. The weed problem in agriculture and methods of control. Prerequisite: Bot. 110. Fee, \$1.00. Two lectures, 3 hours laboratory. Credit, 3 hours.

204 *Grain Crop Production*. Cultural methods involved in the production of grain crops. Fee, \$1.00. Two lectures, 3 hours laboratory. Credit, 3 hours.

208 *Soil Fertility*. Problems involved in the use of fertilizers, crop rotations, and irrigation water in the management of soils. Prerequisite: Ag. 105. Fee, \$2.00. Two lectures, 3 hours laboratory. Credit, 3 hours.

210 *Alfalfa and Forage Production*. The methods of producing, harvesting and storing of the principal forage crops with particular emphasis on the production of alfalfa. Pasture management and the place of forage crops in rotations and soil conservation are considered. Fee, \$1.00. Three lectures or equivalent in field work. Credit, 3 hours.

212 *Cotton Production*. Study of the cultural methods and the problems involved in the production and harvesting of cotton. Prerequisite: Bot. 110. Fee, \$1.00. Two lectures, 3 hours laboratory. Credit, 3 hours.

214 *Agriculture Seminar*. Reports and discussions of current problems in agriculture. Credit, 1 hour.

216 *Crop Breeding*. Basic principles and methods used in improvement of important farm crops are studied. Prerequisites: Biol. 204; Bot. 110. Fee, \$2.00. Three lectures or equivalent in field work. Credit, 3 hours.

218 *Soil Conservation*. A study of soil conservation practices and their application to farm situations with particular emphasis on the problems of the Southwest. Prerequisite: Ag. 105. Fee, \$2.00. Three lectures or equivalent in field work. Credit, 3 hours.

219 *Agricultural Entomology*. Insect pests of major economic importance in agriculture in Arizona and the West, including their recognition, type of damage, distribution, life history and methods of control. Consideration of insecticides will be included. Prerequisite: Zool. 210. Fee, \$1.00. Two lectures, 3 hours laboratory. Credit, 3 hours.

## Animal Husbandry or Livestock Production

Ag.121 *Principles of Animal Husbandry*. Principles of livestock management and production. Score card and judging practices. Prerequisite to other animal husbandry courses. Fee, \$1.00. Two lectures, 3 hours laboratory. Credit, 3 hours.

122 *Breeds of Livestock*. Characteristics of breeds of farm animals; origin, history, and development. Two lectures. Credit, 2 hours.

123 *Livestock Production Practices*. Supervised farm experience in animal feeding, breeding, fitting for show, keeping records, and other practices in the field of livestock production. Prerequisite: Ag. 121. One discussion period, 6 hours laboratory. Credit, 2 hours.

124 *Livestock Production Practices*. Continuation of Ag. 123. Credit, 2 hours.

125 *Principles of Dairy Husbandry*. A study of the principles of dairy husbandry such as feeding, breeding, management, selection, herd improvement, artificial insemination, diseases, calf raising, milking, and dairy equipment. Fee, \$1.00. Two lectures, 3 hours laboratory. Credit, 3 hours.

126 *Dairy Production Practices*. Supervised farm experience in dairy feeding, breeding, fitting for show, keeping records and the attainment of proficiency in skills associated with a dairy enterprise. Prerequisite: Ag. 125. One discussion period, 6 hours laboratory. Credit, 2 hours.

127 *Poultry Husbandry*. Poultry management, and application to local and regional conditions. Fee, \$1.00. Three lectures or equivalent in field work. Credit, 3 hours.

129 *Poultry Production Practices*. Supervised farm experience in poultry feeding, handling eggs, poultry raising for meat production, sanitation practices, and disease prevention (vaccination). Prerequisite: Ag. 127. Six hours laboratory. Credit, 2 hours.

180. *Selection and Culling of Poultry*. Selecting poultry adapted to southwestern conditions; separating layers from poor layers and non-layers; practice in culling flocks on valley farms. Prerequisite: Ag. 127. Fee, \$2.00. One lecture, 3 hours laboratory or equivalent in field work. Credit, 2 hours.

222 *Animal Feeding*. Study of the different feeds and feeding methods, digestion of feeds, and balancing rations. Prerequisites: Ag. 121 and one course in college chemistry. Fee, \$2.00. Three lectures or equivalent in field work. Credit, 3 hours.

223 *Animal Nutrition*. Fundamental principles of nutrition, as they apply to the use of proteins, carbohydrates, fats, minerals, and vitamins by farm animals. Prerequisites: Ag. 222; Chem. 180. Fee, \$1.00. Three lectures or equivalent in field work. Credit, 3 hours.

224 *Market Milk Production*. Modern methods of producing, assembling, processing and marketing milk. Sanitation, quality control, legal standards, pricing, milk plant operation. Prerequisites: Ag. 125; Bact. 110. Fee, \$1.00. Three lectures or equivalent in field work. Credit, 3 hours.

225 *Livestock Judging*. A study of various breeds of livestock. Trips to stock farms, ranches, and livestock fairs. Prerequisites: Ag. 121, 122. Fee, \$2.00. Two lectures, 3 hours laboratory; or equivalent in field work. Credit, 3 hours.

226 *Swine Production*. Production, breeding, feeding, and management of swine. Prerequisites: Ag. 121, 122, 222. Fee, \$1.00. Two lectures or equivalent in field work. Credit, 2 hours.

228 *Beef Production.* Production, breeding, feeding, and management of beef cattle. Prerequisites: Ag. 121, 122, 222. Fee, \$1.00. Two lectures or equivalent in field work. Credit, 2 hours.

229 *Poultry Production and Management.* The application of the principles of feeding, breeding, and sanitation to the economics of poultry production; marketing of poultry products; profit calculations. Prerequisite: Ag. 127. Fee, \$2.00. Three lectures or equivalent in field work. Credit, 3 hours.

230 *Sheep Production.* Production, breeding, feeding, and management of sheep. Prerequisites: Ag. 121, 122, 222. Fee, \$1.00. Two lectures or equivalent in field work. Credit, 2 hours.

231 *Poultry Breeding and Hatching.* Principles and practices of poultry breeding and incubation. Special emphasis on adapting strains to Southwestern conditions. Operation of incubators on the College Farm. Prerequisite: Ag. 127. Two lectures, 3 hours laboratory. Credit 3 hours.

233 *Animal Reproduction and Artificial Breeding.* A study of methods and techniques used in natural and artificial breeding of farm animals including a review of the structure and functioning of the reproductive system. Prerequisite: Ag. 236. Fee, \$5.00. Two lectures, 3 hours laboratory. Credit, 3 hours.

234 *Dairy Production and Management.* An integration of the principles of feeding, breeding, and management that are fundamental to economical production and successful operation of the dairy enterprise. Prerequisites: Ag. 125, 126, 222. Fee, \$2.00. Three lectures or equivalent in field work. Credit, 3 hours.

235 *Range Management.* A study of the problems of improvement and utilization of range lands. Prerequisites: Ag. 121; Bot. 110. Fee, \$2.00. Three lectures or equivalent in field work. Credit, 3 hours.

236 *Veterinary Science.* Practical study of the form and functioning of the body systems of farm animals. Special attention given to the digestive and reproductive systems. Prerequisites: Ag. 121; Zool. 110. Fee, \$2.00. Three lectures, 3 hours laboratory. Credit, 4 hours.

237 *Poultry Diseases and Sanitation.* Study of health problems of poultry as encountered on the farm. Description and classification of poultry diseases, their diagnosis, control and prevention. Laboratory includes post mortem examinations and microbiological studies. Prerequisite: Ag. 127. Fee, \$2.00. One lecture, 3 hours laboratory. Credit, 2 hours.

238 *Livestock Diseases and Sanitation.* Study of animal health problems as encountered on the farm and ranch. The importance of sanitation and management in disease control and animal health. Prerequisites: Ag. 236; Zool. 110. Fee, \$2.00. Three lectures or equivalent in field work. Credit, 3 hours.

239 *Animal Breeding.* The principles of genetics applied to animal breeding. Prerequisites: Biol. 204; Zool. 110. Fee, \$1.00. Three lectures or equivalent in field work. Credit, 3 hours.

240 *Advanced Livestock Judging.* An advanced course in the judging of livestock. Trips to farms, ranches, and livestock fairs. Prerequisite: Ag. 225. Fee, \$1.00. One lecture, 3 hours laboratory. Credit 2 hours.

### Management and Economics

Ag. 141 *Principles of Farm and Ranch Organization.* The principles, concepts, and procedures of farm and ranch organization as applied in the business of farming and ranching. Fee, \$1.00. Three lectures or equivalent in field work. Credit, 3 hours.

144 *Agricultural Economics.* Deals with the principles of economics as they apply to agricultural problems. The economic factors governing crop production and its distribution will be given major consideration. Credit, 3 hours.

149 *Agricultural Marketing and Merchandising.* Underlying principles, concepts, and factors that control the efficient marketing and merchandising of agricultural products. Credit, 3 hours.

241 *Farm and Ranch Management.* Designed primarily to teach underlying business principles of farm and ranch management as they affect the over-all administration of agricultural-production business enterprises; and to develop business judgment in the actual, practical business of operating and managing farms, ranches, and business enterprises closely connected with agricultural production. Fee, \$1.00. Three lectures or equivalent in field work. Credit, 3 hours.

242 *Advanced Farm Management.* Factors contributing to success of selected farm enterprises are studied. Also, considered are factors responsible for farm business losses from legal and natural causes, business mistakes, and poor judgment. Three lectures or equivalent in field work. Credit, 3 hours.

244 *Agricultural Finance.* Acquisition of capital, use of credit, legal aspects of finance and financial management of working capital. Three lectures or equivalent in field work. Credit, 3 hours.

245 *Livestock Production and Management.* Such problems as methods of production, livestock enterprises, economics, budgeting, finance, loss prevention, and marketing are considered in relation to livestock production and management. Prerequisite: Ag. 222. Fee, \$1.00. Three lectures or equivalent in field work. Credit, 3 hours.

246 *Land Utilization.* Land management including basic factors of land value, land use capabilities, fertility maintenance, conservation practices, and farm diversification. Credit, 2 hours.

247 *Crop Production and Management.* Types of crop farms, cropping systems, finance, harvesting, and pest control as applied to crop production are considered. Prerequisite: Ag. 107. Fee, \$1.00. Three lectures or equivalent in field work. Credit, 3 hours.

248 *Management of Supplies and Equipment.* Selection, purchasing, economics of servicing and financing of equipment and supplies. Fee, \$1.00. Two lectures or equivalent in field work. Credit, 2 hours.

250 *Farm Labor Management.* General principles and economics of farm labor requirements related to farm management costs and income. Fee, \$1.00. Three lectures or equivalent in field work. Credit, 3 hours.

252 *Public Relations.* Public relations techniques, government's interest in agriculture, agricultural programs such as production control, subsidies, supports and the interrelated economic problems of agriculture. Three lectures or equivalent in field work. Credit, 3 hours.

254 *Farm Cooperatives.* Principles of cooperation in agriculture, methods of organization, operation and management of cooperative sales, purchasing and service associations. Fee, \$1.00. Credit, 3 hours.

256 *Homestead Management.* The farm homestead and its relation to the farm business. Fee, \$1.00. Two lectures or equivalent in field work. Credit, 2 hours.

## Horticulture

Ag. 181 *Vegetable Crops.* Areas of production and cultural practices. Emphasis on the vegetable garden. Fee, \$1.00. Three lectures or equivalent in field work. Credit, 3 hours.

183 *Principles of Horticulture.* Plant propagation. Nursery practices. Orchards and home grounds. Fee, \$1.00. One lecture, 3 hours laboratory. Credit, 2 hours.

184 *Practical Horticulture.* Ornamental trees and shrubs, flowering plants, and landscaping. Fee, \$1.00. One lecture, 3 hours laboratory. Credit, 2 hours.

287 *Citriculture.* Study of orchard operation skills to acquaint students with methods of operating commercial orchards, with emphasis on origin and distribution of citrus, varieties, economic importance, pest control, and orchard tillage. Prerequisite: Ag. 183. Fee, \$1.00. Three lectures or equivalent in field work. Credit, 3 hours.

289 *Landscaping and Floriculture.* Fundamental principles and practices in landscaping and the culture of annual and perennial flowers, bulbs, houseplants, shade trees, shrubs, lawn grasses and greenhouse plants. Prerequisite: Ag. 184. Fee, \$1.00. Three lectures or equivalent in field work. Credit, 3 hours.

292 *Commercial Vegetable Crops.* Soil practices, cultural methods, harvesting and marketing of leading truck crops. Three lectures or equivalent in field work. Credit, 3 hours.

## Agricultural Mechanics

Ag. 161 *Agricultural Mechanics*. Study and application of various mechanical skills important to agriculture. Prerequisite to all other courses in agriculture mechanics. Fee, \$4.00. One lecture, 3 hours laboratory. Credit, 2 hours.

163 *Farm Machinery*. Care, adjustment, and field operation of tillage and cultivating implements, planting, fertilizing, and harvesting machinery. Fee, \$2.00. One lecture, 3 hours laboratory. Credit, 2 hours.

164 *Farm Structures and Equipment*. Functional requirements of farm buildings, use of building materials, farm carpentry, and constructional methods. Fee, \$4.00. One lecture, 3 hours laboratory. Credit, 2 hours.

260 *Farm Tractors*. Operation, servicing, and repairing of gasoline and diesel-powered tractors. Fee, \$4.00. One lecture, 6 hours laboratory. Credit, 3 hours.

262 *Advanced Agriculture Mechanics*. Design, construction, and repairing of farm equipment. Fee, \$4.00. One lecture, 6 hours laboratory. Credit, 3 hours.

268 *Farm Refrigeration*. Study of various refrigeration equipment, its care, repair, adjustment, and actual operation. Fee, \$4.00. One lecture, 3 hours laboratory. Credit, 2 hours.

## Air Science

MULLIGAN (Head of Department), BJELLAND, DORAN, KARP,  
KLARE, POOLE.

### Air Science

A.S. 101 *Basic Air Science (First Year)*. An introduction to the AFROTC Program and a study of the development of aviation, the classes and structure of aircraft, the basic principles of flight, and the fundamentals of global geography. Two lectures and 2 hours of drill instruction per week. Credit, 1.5 hours.

102 *Basic Air Science (First Year)*. A study of the factors and forces influencing international relations, the nation's defense organization, and the role of military aviation. Two lectures and 2 hours of drill instruction per week. Credit, 1.5 hours.

103. *Basic Air Science (Second Year)*. A presentation of the elements of aerial warfare which includes: types of targets, intelligence procedures, aerial weapons, and the type of delivery aircraft. Prerequisite: A.S. 101 and 102, or equivalent. Two lectures and 2 hours of drill and exercise of command per week. Credit, 1.5 hours.

104. *Basic Air Science (Second Year)*. A study of the elements of aerial warfare to include: the air ocean, air bases, and USAF combat and support organizations; a survey of the USAF Officer Career Program. Two lectures and 2 hours of drill and exercise of command per week. Credit, 1.5 hours.

201 *Advanced Air Science (First Year)*. A study of command and staff concepts, problem solving techniques, principles and techniques of learning and teaching, and Air Force correspondence. Prerequisite: Basic Air Science or equivalent. Four lectures and 2 hours of leadership laboratory per week. Credit, 3 hours.

202 *Advanced Air Science (First Year)*. A survey of Military Courts and Boards, aerial navigation, and weather. A study of the organization of a typical air base and the functions of the key base officers. Four lectures and 2 hours of leadership laboratory per week. Credit, 3 hours.

203 *Advanced Air Science (Second Year)*. Instruction in leadership and air power concepts which includes: principles of leadership and management (seminar), career guidance, and military aspects of world political geography. Prerequisite: A.S. 202. Four lectures and 2 hours of leadership laboratory per week. Credit, 3 hours.

204 *Advanced Air Science (Second Year)*. Continuation of military aspects of world political geography, military aviation and the art of war, and briefing for commissioned service. Prerequisite: A.S. 203. Four lectures and 2 hours of leadership laboratory per week. Credit, 3 hours.

## Art

WOOD, (Head of the Department), BURGESS, HARTER, JEAN HOPKINS\*,  
KLOSTER, SCHAUMBURG.

### Art

Art 100 *Introduction to Art*. Development of understanding and enjoyment of art and its relationship to everyday life through the study of painting, sculpture, architecture, and design. Some laboratory experience. Fee, \$1.00. Credit, 2 hours.

101 *Drawing and Perspective*. Techniques of drawing and sketching as applied to the realistic and expressive representation of objects, landscapes, buildings, animals, etc. Fee, \$2.00. Four hours a week. Credit, 2 hours.

103 *Life Drawing*. Development of skill and expressiveness in drawing the basic form, construction, and action of the human figure from live models. Fee, \$5.00. Six hours per week. Credit, 3 hours.

105 *Basic Design*. Problems in two and three-dimensional design. A study of design elements through experimentation with wood, wire, and other materials. Fee, \$1.50. Four hours a week. Credit, 2 hours.

106 *Basic Design*. Problems in two dimensional design and color harmony. Fee, \$1.00. Four hours a week. Credit, 2 hours.

115 *Beginning Painting*. Emphasis upon composition, color and technical mastery of painting media. Prerequisites for art majors: Art 101, 106. Fee, \$1.00. Six hours a week. Credit, 3 hours.

117 *Crafts*. A laboratory course in modern design using materials such as metal, wood, leather, and textiles. Field studies, block print-

\*Special Faculty

ing, lapidary work, weaving, silk screen, and bookbinding are also explored. Prerequisite: Art 105 or 106 for art majors. Fee, \$10.00. Wood, metals, copper enamel, and textile paint furnished. Six hours a week. Credit, 3 hours.

119 *Native Crafts*. A course in the preparation and use of native materials such as snakeskin, cactus, local stone and wood, plant fibers, bones, etc.; field trips, research in American Indian techniques. Fee, \$10.00. Six hours a week. Credit, 3 hours.

121 *Lettering*. Construction, spacing, and arrangement of Roman and Gothic letters. Analysis of Italics, script, and miscellaneous letter forms. Fee, \$1.00. Four hours a week. Credit, 2 hours.

123 *Commercial Art*. Practical problems in six major graphic media used in advertising. Recommended also for journalism and business administration majors. Prerequisite: Art 121. Fee, \$2.00. Six hours a week. Credit, 3 hours.

125 *Photography*. A laboratory course providing class, field, and darkroom practice in the use of cameras, exposure meters, flash equipment, etc. and in film developing, contact printing, and enlarging. Fee, \$10.00. One hour class, 3 hours laboratory. Credit, 2 hours.

131 *Fashion Design*. Initial course in designing and constructing fashions. A survey of manufacturers, retailers, designers and illustrators. Prerequisites for art majors: Art 103, 105. Fee, \$2.00. Six hours a week. Credit, 3 hours.

135 *Fashion Illustration*. Introduction to fashion illustration. Emphasis upon sketching and rendering. Prerequisites: Art 103, 106. Six hours a week. Credit, 3 hours.

136 *History of Fashions*. Research and study of historic costume. Consideration will be given to the adaptation of past styles in dress in designing present day fashions. Fee, \$1.00. Credit, 2 hours.

141 *Interior Design*. Design, rendering, and model construction of floor plans, elevations, and interior sketches. Prerequisites: Art 101, 106. Fee, \$2.00. Six hours a week. Credit, 3 hours.

151 *Ceramics*. A laboratory course introducing the student to the nature of clay and glazes, hand-forming methods, throwing on the wheel, decorative processes, glaze application, and firing. Prerequisite for art majors: Art 105. Fee, \$5.00. Four hours a week. Credit, 2 hours.

161 *Water Color*. Painting in gouache and transparent water color. Emphasis on techniques, composition, and color. Prerequisites for art majors: Art 101, 106. Fee, \$1.00. Six hours laboratory. Credit, 3 hours.

171 *Sculpture*. Modeling, casting, mold making and building armatures; carving in wood or plastic. Prerequisites for art majors: Art 103, 105. Four hours a week. Fee, \$4.00. Credit, 2 hours.



201g *Advanced Drawing*. Emphasis on drawing techniques and composition. Prerequisite: Art 101. Four laboratory hours a week. Credit, 2 hours.

203 *Advanced Life Drawing*. Emphasizes form and anatomical structure of figure and head. Various mediums and techniques. Prerequisite: Art 103. Fee, \$5.00. Six hours a week. Credit, 3 hours.

204g *Advanced Life Drawing*. Continuation of Art 203 with anatomical research, one hour additional each week. Group criticism. Prerequisites: Art 103, 203. Fee, \$3.00. Six hours laboratory, 1 hour outside preparation. Credit, 3 hours.

205g *Space Design*. Creative design with emphasis on volume and space relationships. Construction in a variety of materials. Continuing use of hand tools and machine tools. Prerequisite: Art 105. Fee, \$5.00. Six laboratory hours a week. Credit, 3 hours.

206g *Crafts for the Elementary School Teacher*. Laboratory experiences stressing inexpensive materials that children can use. Decorating and using paper in bookbinding, lamps, etc.; paper sculpture, papier mache, modeling, inner-tube printing, stenciling; mobiles and holiday crafts. Fee, \$5.00. One lecture, 3 hours laboratory. Credit, 2 hours.

207 *Art in the Elementary School*. Problems of materials, organization, methods, and curriculum for the elementary art specialist or consultant; the Art Supervisor's responsibility in human relations and communications. Two hours a week. Credit 2 hours.

210 *Public School Art*. Emphasizes tools, materials and procedures of importance in directing children's art activities. Should precede student teaching. Fee, \$2.00. Four hours a week. Credit, 2 hours.

211 *Western Art to the Renaissance*. A survey of western art to the Renaissance. Fee, \$1.00. Three hours a week. Credit, 3 hours.

212 *Renaissance Art*. Continuation of Art 211. A survey of the art of the Renaissance in Italy and Northern Europe. Fee, \$1.00. Three hours a week. Credit, 3 hours.

213g *Contemporary Art*. A survey of philosophy and trends in twentieth-century art. Fee, \$1.00. Three hours a week. Credit, 3 hours.

214g *American Art*. A study of the way in which the cultural unfolding of America has been reflected in the significant trends in American painting, sculpture, and architecture. The survey ranges from American Old Masters to Contemporary artists. The great collection of original American Art owned by Arizona State College, in which virtually all 18th and 19th century masters and many great moderns are represented, serves as source material for the course. Fee, \$1.00. Three hours a week. Credit, 3 hours.

215g *Painting Mediums and Techniques*. A laboratory course to acquaint the student with materials in all varieties of painting. Experimental problems in oil, lacquer, pastel, encaustic, acetate paints, mosaic, and others. Fee, \$2.50. Four hours a week. Credit, 2 hours.

217 *Advanced Crafts*. Correlation of function with medium and design. Problems in weaving, book-binding, and costume jewelry. Individual problems. Prerequisite: Art 117. Fee, \$3.00. Six hours a week. Credit, 3 hours.

218g *Advanced Crafts*. Students specialize in a particular craft medium or technique. Prerequisite: Art 217. Fee, \$3.00. Six hours a week. Credit, 3 hours.

219g *Stage Craft*. Study and practical work in scenery and costume design for classroom and art teachers. Also open to art education majors. Prerequisites: Art 207, Art 210, or equivalent. Fee \$2.00. One lecture, 3 hours laboratory. Credit, 2 hours.

220g *Jewelry*. Methods in the use of tools, processes, and materials in designing jewelry having originality and good craftsmanship. Prerequisites for art majors: Art 105, 106, 117. Fee, \$2.00. Four laboratory hours a week. Credit, 2 hours.

221 *Advanced Lettering*. Emphasis on arrangement and spacing. Prerequisite: Art 121. Fee, \$1.00. Four hours a week. Credit, 2 hours.

222 *Advanced Lettering*. Recommended only to those having a special interest in lettering. Prerequisite: Art 221. Fee, \$1.00. Four hours a week. Credit, 2 hours.

223 *Advanced Commercial Art*. The student specializes in areas in which he is most interested. Prerequisites: Art 121, 123. Fee, \$1.00. Six hours a week. Credit, 3 hours.

224g *Advanced Commercial Art*. Planning and preparation of samples of work for presentation to prospective employers. Prerequisite: Art 223. Fee, \$2.50. Six hours a week. Credit, 3 hours.

225g *Graphic Arts Processes*. Introduction to modern print-making processes in woodcut, etching, and lithography. Prerequisites: Art 101, 103, 106. Fee, \$3.00. Six laboratory hours a week. Credit, 3 hours.

231 *Advanced Fashion Design*. Designing clothes with relation to price ranges and materials. Style forecasting. Prerequisite: Art 131. Fee, \$2.00. Six hours a week. Credit, 3 hours.

232 *Advanced Fashion Design*. Students may specialize in designing clothes for special types, for the junior miss, or for children. Prerequisite: Art 231. Fee, \$2.00. Six hours a week. Credit, 3 hours.

235 *Advanced Fashion Illustration*. Illustrating clothes and accessory merchandise for newspaper, magazine, and catalog advertising. Prerequisite: Art 135. Six hours a week. Credit, 3 hours.

241 *Advanced Interior Design*. Coordinated planning in decorating interiors. Emphasis upon modern ways of achieving space, renderings in color and perspective, and scale models. Prerequisite: Art 141 or its equivalent. Fee, \$2.00. Six hours a week. Credit, 3 hours.

242g *Advanced Interior Design*. Continuation of Art 241. Prerequisites: Art 141, 241. Fee, \$5.00. Six hours per week. Credit, 3 hours.

**249g Art Education for Elementary Teachers.** Integrating art activities in curriculum planning. A course for experienced teachers; creative laboratory activities, lectures, discussions, and visual aids. Teaching demonstrations with children. Prerequisite: for elementary teachers. Fee, \$3.00. One lecture, 4 hours laboratory. Credit, 3 hours.

**251 Advanced Ceramics.** Students specialize in more advanced production methods, glaze formula interpretation, some experimental work in clays and glazes. Prerequisite: Art 105, 151. Fee, \$5.00. Six hours a week. Credit, 3 hours.

**252g Advanced Ceramics.** Studio problems adapted to meet individual needs. Curriculum problems, procedures, and techniques for teachers. Advanced research for the individual potter. Prerequisite: Art 251 or equivalent. Fee, \$5.00. Six hours a week. Credit, 3 hours.

**261 Advanced Water Color.** More advanced problems in picture construction. Prerequisite: Art 161. Fee, \$1.00. Six hours a week. Credit, 3 hours.

**262g Advanced Water Color.** Prerequisite: Art 261. Fee, \$1.00. Six hours laboratory a week. Credit, 3 hours.

**271 Advanced Sculpture.** Experimenting with various materials and working from model. Prerequisite: Art 171. Fee, \$5.00. Four hours a week. Credit, 2 hours.

**272g Advanced Sculpture.** For those with a serious interest in the art of sculpture. Prerequisite: Art 271. Fee, \$5.00. Four hours laboratory a week. Credit, 2 hours.

**291 Advanced Painting.** Advanced problems in oil painting. Prerequisite: Art 115. Fee, \$1.00. Six hours a week. Credit, 3 hours.

**292g Advanced Painting Problems.** Problems for those with a serious interest in easel painting or murals as a career or hobby. Prerequisite: Art 291. Six hours laboratory and 1 hour research a week. Credit, 3 hours.

**295g Portrait and Figure Painting.** Painting from model in oil, gouache, tempera or water color. Prerequisites: Art 203, 291. Fee, \$4.00. Four hours a week. Credit, 2 hours.

**296g Figure Painting.** Prerequisite: Art 295. Fee, \$4.00. Four hours a week. Credit, 2 hours.

**297g Aesthetics.** A course in the interrelation of all the arts, taught by a joint staff from the faculties of the art, philosophy, music, dance, psychology, and audio visual departments. Fee, \$2.00. Two hours a week. Credit, 2 hours.

**298g Aesthetics.** Continuation of Art 297g. Fee, \$2.00. Two hours a week. Credit, 2 hours.

**300 Seminar in Art.** A special phase of art, or of art history, having contemporary significance, particularly in the American West, will be chosen as a theme each semester. Fee, \$2.00. Two hours a week. Credit, 2 hours.

310 *Seminar in Art Education.* Critical evaluation of current philosophy, theory, and trends in modern art education. Group discussion of curricular problems. Prerequisite: Art 207 or teaching experience. Credit, 2 hours.

## Biological Sciences

STAHNKE, (Head of Department), BENDER, HANSON, MCCLEARY,  
MORTENSEN.

### General Science

G.S. 231 *Science for the Elementary School.* Development of an integrated science program in each grade of the elementary school. Lectures, library reports, class discussion, field observation and a three-day camping trip. Prerequisites: Biol. 100; Phys. Sci. 100; Geog. 100. Fee, \$3.00. Credit, 3 hours.

310 *Seminar in Science Education.* Review and survey of current publications. Consideration and solution of problems dealing with the field. Credit, 2 hours.

### Bacteriology

Bact. 110 *Microbiology.* The principles and techniques used in the study of the bacteria, molds, and other microorganisms, and their application in industrial, agricultural, hygienic and domestic problems. Prerequisites: Chem. 110, Biol. 100 or Bot. 110, and Zool. 110 or equivalent. Fee, \$5.00. Two lectures, 6 hours laboratory. Credit, 4 hours.

210g *General Bacteriology.* Comparative morphology, taxonomy, and physiology of bacteria. Prerequisites: Bact. 110 and Chem. 211, and consent of instructor. Fee, \$6.00. Three lectures, 6 hours laboratory. Credit, 5 hours.

### Biology

Biol. 100 *Introduction to the Biological Sciences.* A survey of the major biological principles. Illustrated by both plants and animals with moving pictures and other visual aids. Does not meet science requirements in preprofessional curriculum. Fee, \$2.00. Credit, 4 hours.

130 *Field Biology.* Observation, identification, and natural history of plants and animals of aquatic and terrestrial habitats. Prerequisite: Biol. 100 or equivalent. Fee, \$3.00. One lecture, 2 hours field or laboratory. One week-end field trip. Credit, 2 hours.

190 *Special Techniques in Biology.* Individual projects in the biological sciences. A type of honors course, open only to outstanding students. Approval of the instructor and head of the department required. Fee, \$1.00 per semester hour. Credit arranged.

204 *Genetics and Eugenics.* Principles and facts of heredity developed from plants and animals. Principles of race improvement. Pre-

quisites: Biol. 100 or Bot. 110, and Zool. 110 or equivalent. Credit, 3 hours.

280g *Principles of Biology*. A study of the major biological principles. Designed to bring together the principles drawn from the various fields of biology and to integrate these into a whole philosophy of biology. Prerequisites: Twenty five hours biological sciences, including: Biol. 204; Bot. 110; Zool. 111, 112. Fee, \$1.00. Credit, 3 hours.

305 *The Biological Sciences*. A biographical and conceptional study of the history of the biological sciences. Prerequisite: Twenty four hours of biological sciences. Credit, 2 hours.

350 *Recent Advances in the Biological Sciences*. A review of the current literature and reports by departmental staff covering recent developments in biological concepts. Prerequisites: At least 24 hours of biological sciences. Credit, 2 hours.

## Botany

Bot. 110 *General Botany*. Brief survey of lower plant life. More detailed study of flowering plants. Fee, \$4.00. Three lectures, 3 hours laboratory. Credit, 4 hours.

142 *The Flora of Arizona*. The identification of Arizona plants, and methods of collecting, preserving, and mounting. Prerequisite: Bot. 110 or Biol. 100. Fee, \$3.00. Two lectures, 3 hours laboratory or field trip, one weekend trip. Credit, 3 hours.

160 *General Plant Pathology*. The principles and agents of disease, including field observations and methods of control. Prerequisite: Bot. 110. Fee, \$5.00. Two lectures, 6 hours laboratory. Credit, 4 hours.

171 *Plant Anatomy*. A detailed study of flowering plants, relating structure and function in the case of stems, leaves, roots, flowers, fruits, and seeds. Prerequisite: Bot. 110. Fee, \$4.00. Two lectures, 6 hours laboratory. Credit, 4 hours.

172 *Plant Physiology*. An investigation of plant growth, nutrition, food synthesis, respiration and reproduction. Prerequisites: Bot. 110; Chem. 180. Fee, \$5.00. Two lectures, 6 hours laboratory. Credit, 4 hours.

230g *Plant Ecology*. Plant associations in relation to the major environmental factors. Prerequisite: Bot. 142 or permission of the instructor. Fee, \$4.00. Three lectures, 3 hours laboratory or field trip, one week-end field trip. Credit, 4 hours.

242g *Systematic Botany*. Principles underlying the classification and naming of plants. Laboratory emphasis on grasses and composites. Prerequisite: Bot. 142 or permission of the instructor. Fee, \$4.00. One lecture, 6 hours laboratory, including one week end field trip. Credit, 3 hours.

243g *Cacti and Succulents of Arizona*. Identification of the principle desert cacti and succulents in the area. Prerequisites: Bot. 110 or

equivalent. Fee, \$3.00. One lecture and 3 hours field work, or 6 hours field work. Credit, 2 hours.

244g *Morphology of Lower Plants.* Morphology and economic importance of thallophytes, bryophytes, and pteridophytes. Prerequisite: Bot. 110, Fee, \$4.00. Two lectures, 6 hours laboratory, including field trips. Credit, 4 hours.

260g *Plant Microtechnic.* Methods of handling plant materials for cytological and anatomical examination. Prerequisite: Bot. 110. Fee, \$5.00. Two lectures, 6 hours laboratory. Credit, 4 hours.

## Zoology

Zool. 110 *Animal Biology.* A study of those main zoological principles and representative members of the animal kingdom that are of special interest to the farm and home. Fee, \$5.00. Three lectures, 3 hours laboratory. Credit, 4 hours.

111 *General Zoology.* The form, activities, relationships and economic importance of the main groups of invertebrate and vertebrate animals together with the fundamental principles of zoology. Recommended prerequisite: high school biology, or Biol. 100. Fee, \$5.00. Three lectures, 3 hours laboratory. Credit, 4 hours.

112 *General Zoology.* Continuation of Zool. 111. Prerequisite: Zool. 111. Fee, \$5.00. Three lectures, 3 hours laboratory. Credit, 4 hours.

163 *Chordate Anatom.y.* Fundamental principles of the structure, development, and homology of the chordates. Prerequisite: Zool. 112. Fee, \$6.00. Two lectures, 6 hours laboratory. Credit, 4 hours.

171 *Human Anatomy-Physiology.* Skeletal, articulatory, muscular, integumentary, and nervous systems, and special senses. Prerequisites: high school biology and chemistry; or Phys. Sci. 100 and Biol. 100, or equivalent. Not open to biology majors, pre-medical, or pre dental students. Fee, \$2.00. Credit, 3 hours.

172 *Human Anatomy Physiology.* Circulatory, respiratory, digestive, excretory, endocrine and reproductive systems. Prerequisites: high school biology and chemistry; or Phys. Sci. 100 and Biol. 100, or equivalent. Zool. 171 should be taken first, but not required. Not open to biology majors, pre-medical, or pre dental students. Fee, \$2.00. Credit, 3 hours.

180. *General Entomology.* Form, activities, and classification of insects. Prerequisite: Zool. 110, 111 or equivalent. Fee, \$5.00. Three lectures, 4 hours laboratory. Credit, 4 hours.

185 *Beginning Ornithology.* A study of birds; particularly habits, behavior, and economic importance of Arizona species. Recognition of species by size, form, color, song, and habit. Prerequisite: Biol. 100 or equivalent. Fee, \$3.00. One lecture, 2 hours laboratory. Credit, 2 hours.

212g *Apiculture.* A study of bees and their ways, including methods of management. Students work with bee hives and honey, performing

most of the operations essential to good bee-keeping and honey production. Prerequisite: Zool. 180. Fee, \$5.00. Two lectures, 3 hours laboratory. Credit, 3 hours.

215 *Insect Morphology*. Morphology of typical insects including both external and internal structure. Prerequisite: Zool. 180. Fee, \$5.00. Two lectures, 6 hours laboratory. Credit, 4 hours.

216g *Insect Physiology*. A survey of the life processes of insects. Prerequisite: Zool. 180 (chemistry desirable but not required). Fee, \$5.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

220g *Insect Taxonomy*. Classification, nomenclature and taxonomic practices in entomology. Emphasis is placed on the identification of adult insects. Immature forms are considered briefly. Prerequisite: Zool. 180. Fee, \$5.00. Two lectures, 6 hours laboratory. Credit, 4 hours.

222g *Applied Entomology*. Principles and methods of chemical, cultural and biological control of insect pests. Prerequisite: Zool. 180. Fee, \$5.00. Three lectures, 4 hours laboratory. Credit, 4 hours.

223g *Entomological Techniques*. A practical consideration of important techniques not adequately treated in other courses, particularly: scientific illustration, use of the literature, mounting, preserving, and preparing insects for study, record keeping, elementary mathematical treatment of data, interpretation of graphs, charts and maps. Prerequisite: Zool. 180. Fee, \$2.00. One lecture, 3 hours laboratory. Credit, 2 hours.

230g *Animal Ecology*. Wild animals of North America—their adaptations, communities, habitat, conservation, etc. Prerequisites: Bot. 110; Zool. 111, 112. Fee, \$4.00. Three lectures, 4 hours laboratory or field trips. Credit, 4 hours.

231g *Poisonous Animals of Arizona*. Form, activities, and identification of venomous animals of Arizona and others thought venomous. Prerequisite: Zool. 112 or equivalent. Fee, \$4.00. Two lectures, 3 hours laboratory. Credit, 3 hours.

232g *General Parasitology*. Pathogenic protozoa, worms, and arthropod parasites. Prerequisite: Zool. 112. Fee, \$5.00. Three lectures, 4 hours laboratory. Credit, 4 hours.

233g *General Herpetology*. Form, activities, and identification of lizards and snakes. Special emphasis on those of the Southwest and the United States. Prerequisite: Zool. 112. Fee, \$4.00. Three lectures, 4 hours laboratory. Credit, 4 hours.

254g *Vertebrate Embryology*. Animal development from the egg to the period of extra uterine or extra ovular existence. Prerequisite: Zool. 112. Fee, \$6.00. Three lectures, 4 hours laboratory. Credit, 4 hours.

255g *Human Mechanisms*. Stressing the functions of the human body: muscle activity; metabolic processes and systems involved, co-

ordination mechanisms; the life cycle. Prerequisites: Chem. 110; Zool. 112, or equivalent. Fee, \$5.00. Three lectures, 3 hours laboratory. Credit, 4 hours.

260g *Animal Histology*. Microscopic anatomy of vertebrate tissues with techniques of preparation and identification. Prerequisite: Zool. 112. Fee, \$5.00. Two lectures, 6 hours laboratory a week. Credit, 4 hours.

261g *Animal Cytology*. Structure, differentiation, and functions of cells. Prerequisite: Zool. 112. Fee, \$4.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

270g *General Ornithology*. Morphology, classification, distribution, life histories, and evolution of birds, particular emphasis given to their environmental relations, habitats, behavior, and ornithological field methods. Prerequisite: Zool. 112. Fee, \$4.00. Two lectures, 4 hours laboratory. Recommended particularly for majors in the biological sciences. Credit, 3 hours.

271g *Mammalogy*. A study of the classification, structure, habits, ecology, and distribution of mammals, with emphasis on North American forms. Prerequisite: Zool. 112. Fee, \$4.00. Two lectures, 3 hours laboratory. One week-end field trip. Credit, 3 hours.

## Business Administration

HILKERT (Dean, College of Business Administration), BEALS, BRATCHER, BRIDENSTINE, BURTON, CRANCE, GUTENBERG, HEADINGTON, MCKINNON, MOUNT, NELSON, ROBERT ZACHER, ZIDNAK.

### Accounting

Bus. Ad. 101 *Elementary Accounting*. A beginner's course. Covers the bookkeeping cycle and preparation of business reports. Lectures and laboratory 5 days a week. Credit, 4 hours.

102 *Elementary Accounting*. A continuation of Bus. Ad. 101. Prerequisite: Bus. Ad. 101. Credit, 4 hours.

181 *Payroll and Miscellaneous Taxes*. Social security and unemployment laws with respect to taxes, benefits payable, merit ratings, payroll records, sales tax and payroll reports. Prerequisite: Bus. Ad. 102. Credit, 2 hours.

191 *Intermediate Accounting*. Financial statement analysis, ratios, percentages, proper classification of items in financial statements, financial reporting standards. Interpretation is emphasized for managerial purposes. Prerequisite: Bus. Ad. 102. Credit, 3 hours.

192 *Intermediate Accounting*. Corporations, surplus, reserves, appraisals, goodwill, source and application of fund changes, single entry methods, inventories, investments, fixed assets, etc. Emphasis is placed on current accounting theories and problems. Prerequisite: Bus. Ad. 102. Credit, 3 hours.



203g *Advanced Accounting*. Partnership organization, dissolution and liquidation. Parent and subsidiary companies, consolidated balance sheets and profit and loss statements, estates and trusts. Prerequisites: Bus. Ad. 191, 192. Credit, 3 hours.

204g *Advanced Accounting*. A continuation of 203g. Prerequisites: Bus. Ad. 191, 192. Credit, 3 hours.

207g *Auditing Theory and Practice*. Auditing practices and procedures, working sheets, audit reports. See 230g for continuation. Prerequisites: Bus. Ad. 191, 192. Credit, 3 hours.

208g *Cost Accounting*. Cost accounting systems, job order, process costs, standard costs, estimate costs, cost accounting procedure. See 231g for continuation. Prerequisite: Bus. Ad. 191 or 192. Credit, 3 hours.

209g *Governmental and Institutional Accounting*. Accounting principles applied to governmental units—city, county, and state—and to public institutions. Prerequisite: Bus. Ad. 191 or 192. Credit, 3 hours.

210g *Income Tax—Federal and State*. Laws, regulations, tax returns and procedures especially for individuals. Prerequisite: Bus. Ad. 191 or 192. Credit, 3 hours.

211g *Income Tax—Federal and State*. Income taxes of partnerships, corporations and fiduciaries, reorganizations, holding companies, estate and gift taxes. Tax refunds, tax procedures, etc. Prerequisite: Bus. Ad. 210. Credit, 3 hours.

212 *Mathematics of Accounting*. Review of simple interest, bank discount, cash and trade discount, a study of the elementary principles of compound interest and annuities, and other business calculations. Prerequisite: Math. 106. Credit 2 hours.

213 *Mathematics of Finance*. Continuation of the study of compound interest and annuities, bond valuation, amortization, and income tax problems. Prerequisites: Math 106; Bus. Ad. 212. Credit, 2 hours.

214 *Accounting Systems*. Review of the various systems of accounting, adaptation of the system to the business need, and installation procedures. Prerequisite: Bus. Ad. 192, or concurrent registration. Credit, 2 hours.

228g *Budgetary Control*. The relationship of budget practice to accounting and good management; the preparation of the budget; sources from which estimates are drawn; comparison of estimates with performance; budget revisions; the accounting problems involved. Prerequisites: Bus. Ad. 191, 192, 208. Credit, 2 hours.

229g *Controllership*. An analysis of the functions of the controller and the organization of his department; consideration is given to the responsibilities of the controller as a part of the administrative group and to the scope of the problems with which he deals. Prerequisites: Bus. Ad. 191, 192. Credit, 2 hours.

230g *Auditing Theory and Practice*. Continuation of course Bus. Ad. 207g; emphasis will be placed on practical application of theoretical principles. Prerequisite: Bus. Ad. 207. Credit, 3 hours.

231g *Advanced Cost Accounting*. Continuation of Bus. Ad. 208g. A further study of job order cost accounting with a major portion of the time being devoted to process, estimated, and standard costs, with some attention being given to distribution costs. Prerequisite: Bus. Ad. 208. Credit, 3 hours.

232 *Farm Accounting and Related Tax Problems*. Accounting methods and procedures applicable to farm and ranch operations, including income tax and employment tax problems. Credit, 3 hours.

260g *C.P.A. Problems and Review*. Intensive training for C.P.A. Examinations in Accounting Practice, Theory of Accounts, Auditing, and Business Law. Various types of problems and questions given by the C.P.A. Examiners are studied. Prerequisites: Bus. Ad. 230, 231, or permission of instructor. Fee, \$5.00. Credit, 3 hours.

261g *C.P.A. Problems and Review*. A continuation of 260g. Prerequisites: Bus. Ad. 230, 231, or permission of instructor. Fee, \$5.00. Credit, 3 hours.

291g *Accounting Literature*. Review of accounting history and study of research bulletins, pronouncements, and other data and information issued by the American Institute of Accountants. Current technical journals will also be examined. Prerequisite: Approval of instructor. Credit, 2 hours.

292g. *Accounting Literature*. Continuation of Bus. Ad. 291g. Prerequisite: Approval of instructor. Credit, 2 hours.

Note: A laboratory fee of 50 cents is charged for each accounting course, but the maximum laboratory fee in any semester, regardless of the number of accounting courses taken, is \$1.00, except for Bus. Ad. 260g and 261g.

## Business Teacher Training

Bus. Ad. 301 *Improving Instruction in Typewriting*. An intensive consideration of principles and modern methods in teaching typewriting and of office practices as they relate to typewriting. Registration subject to approval of instructor. Credit, 2 hours.

302 *Improving Instruction in Shorthand and Secretarial Procedure*. Various methods of presenting Gregg shorthand with consideration given to the importance of secretarial procedure. Prerequisite: Bus. Ad. 186 or equivalent. Registration subject to approval of instructor. Credit, 2 hours.

303 *Improving Instruction in Bookkeeping and Accounting*. The latest methods of teaching bookkeeping and accounting and recent surveys in the field of education and business practice. Registration subject to approval of instructor. Credit, 2 hours.

304 *Foundations of Business Education*. The history, philosophy, principles and objectives of business education; problems of curricu-

lum and curriculum evaluation; contribution of business education to general education. Registration subject to approval of instructor. Credit, 2 hours.

31 *Seminar in Business Education.* Problems in organization, administration, and instruction in the field of business education. Registration subject to approval of instructor. Credit, 1 to 3 hours.

## Economics

Bus. Ad. 130 *Introduction to Economics.* Descriptive analysis of the structure and operation of the American economy. Consideration of basic economic institutions, processes, and contemporary economic problems. Open to non-majors and required of all majors in Business Administration. Credit, 3 hours.

132 *Principles of Economics.* Determination of production, prices and distribution of income in the American economy. Examination of basic economic principles and their application to contemporary problems. Optional for non majors; Business Administration majors must complete both Bus. Ad. 130 and 132. Prerequisite: Bus. Ad. 130. Credit, 3 hours.

133 *Economics of Enterprise.* Price and output decisions of the individual business firm under conditions of competition, monopoly, monopolistic competition, and oligopoly. Prerequisite: Bus. Ad. 132. Credit, 3 hours.

134 *Economics of Income and Employment.* Analysis of determinants of aggregate level of employment, output and income of an economy. Prerequisite: Bus. Ad. 132. Credit, 3 hours.

217 *Money and Banking.* Functions of money, monetary systems, credit functions, banking practices and policies. Prerequisites: Bus. Ad. 102 and 132. Credit, 3 hours.

219 *Labor Relations.* Appraisal of problems confronting labor and capital as well as legislation and administrative regulations affecting employers and employees. Prerequisite: Bus. Ad. 132 or consent of instructor. Credit, 3 hours.

226g *Business Cycles.* Historical, statistical and analytical study of business cycle theory. Comparison of theories of leading economists. Methods of control of cyclical fluctuations. Prerequisites: Bus. Ad. 133 or 134, and 224 or concurrent registration. Credit, 2 hours.

257 *Public Finance.* Principles and practices of taxation, public expenditures, credit, budgetary policy. Prerequisite: Bus. Ad. 132. Credit, 3 hours.

258 *Economics of Public Utilities.* Economic, legislative and administrative problems in the regulation of public utility rates and service standards. Study of public utility costs, pricing policies, rates, plant utilization, and competition. Prerequisite: Bus. Ad. 132. Credit, 3 hours.

259g *Economics of Transportation*. Theory and practice of transportation. Principles of rate-making, valuation, and Interstate Commerce Commission procedure. Regulation of railroad, motor truck, and air transportation. Prerequisite: Bus. Ad. 132. Credit, 3 hours.

262 *Comparative Economic Systems*. Economic aspects of communism, fascism, nazism, capitalism, socialism. Prerequisite: Bus. Ad. 132. Credit, 2 hours.

264g *Economic Policy in War and Peace*. Application of economic analysis to problems of military preparedness, war, and peace. Evaluation of government policies in the fields of money and credit, expenditures and taxes, wages and prices, international relations and other relevant topics. Prerequisite: Bus. Ad. 134, or approval of instructor. Credit, 2 hours.

267g *History of Economic Thought*. Development of economic doctrines. Ancient and medieval writings, mercantilists, classical and neo-classical foundations. Prerequisite: Bus. Ad. 133. Credit, 3 hours.

269 *Business Regulation and Public Policy*. Economic aspects and consequences of public policy and regulation of economic activity; relationship of government and business. Prerequisite: Bus. Ad. 132. Credit, 3 hours.

270g *Advanced Economic Analysis*. Value, price, and distribution theories; national income analysis and application to public policy; recent developments in economic theory. Prerequisites: Bus. Ad. 133, 134. Credit, 3 hours.

271g *International Trade*. Principles and practices of international trade, balance of payments, controls, commercial policies, international organizations. Prerequisites: Bus. Ad. 132, 173, 262. Credit, 2 hours.

272g *International Finance*. Principles and practices of international finance, national incomes, exchange controls, monetary policies, international financial organizations. Prerequisites: Bus. Ad. 217, 271. Credit, 2 hours.

### General Business

Bus. Ad. 115 *Introduction to Modern Business*. Analysis of the modern business world. Consideration of the relationship of society to contemporary business institutions, processes, and problems. This course meets general education requirements of the College. Designed for students not majoring in business administration. Credit, 3 hours.

141 *Mathematics of Business*. A rapid review of the fundamentals of arithmetic will be followed by a study of the mathematical problems ordinarily encountered in business, excluding compound interest and annuities. Prerequisites: Math. 105 or 106. Credit, 2 hours.

205 *Business Law*. Contracts, sales, agency, partnerships, corporations, negotiable instruments, personal property, real property, and federal and state regulation of business. Credit, 3 hours.

206 *Business Law*. A continuation of 205. Prerequisite: Bus. Ad. 205. Credit, 3 hours.

224 *Business Statistics*. Sources, classification and tabulation of data, index numbers, graphs, statistical inference, time series analysis, correlation, and their applications to business. Prerequisites: Bus. Ad. 132 or concurrent registration; Math. 105 or 106, or equivalent. Fee, \$1.00. Credit, 4 hours.

233 *Business Communication*. Techniques and principles underlying effective business messages, the mechanics and format of business correspondence, the role of the letter writer in the business office, and training in the organization and writing of business reports. Prerequisites: Eng. 102; Bus. Ad. 110 or equivalent. Credit, 3 hours.

298g *Investigation of Business Problems*. Individual study of selected business problems such as resources, labor supply, production organization, finance, and marketing. Prerequisite: Approval of Dean of the College of Business Administration. Hours, arranged. Credit, 1 to 3 hours.

299g *Investigation of Business Problems*. Continuation of Bus. Ad. 298g. Prerequisite: Bus. Ad. 298. Credit, 1 to 3 hours.

### Insurance

Bus. Ad. 189 *General Insurance*. Coverage available, buying methods, procedures in settling claims, insurance companies, and vocational opportunities. Prerequisite: Bus. Ad. 132. Credit, 2 hours.

222 *Life Insurance*. A thorough study of life insurance principles. Prerequisite: Bus. Ad. 189. Credit, 2 hours.

223 *Life Insurance*. A continuation of the study of life insurance principles. Prerequisite: Bus. Ad. 222. Credit, 2 hours.

244 *Fire Insurance*. A complete and thorough study of all fire contracts and related contracts together with an examination of current practices. Prerequisite: Bus. Ad. 189. Credit, 2 hours.

245 *Inland Marine Insurance*. A study of marine insurance, coverages, underwriting claims, theory, and administration. Prerequisite: Bus. Ad. 189. Credit, 2 hours.

246 *Fire and Liability Insurance, C.P.C.U.* A study of insurance principles and practices as required by The American Institute for Property and Liability Underwriters for employed men in the field. Credit, 4 hours.

247 *Fire and Liability Insurance, C.P.C.U.* A study of rate making, rating bureaus, claims, claims service, and related topics. Credit, 4 hours.

248 *Fire and Liability Insurance, C.P.C.U.* A study of economics, government, social legislation and English as required by The American Institute for Property and Liability Underwriters for employed men in the field. Credit, 4 hours.

249 *Fire and Liability Insurance, C.P.C.U.* A study of general commercial law, insurance law, accounting, personal finance, business organization and agency management as required by The American Institute for Property and Liability Underwriters for employed men in the field. Credit, 4 hours.

255 *Casualty Insurance.* A study of casualty insurance, coverages, underwriting, claims, theory, and administration. Prerequisite: Bus. Ad. 189. Credit, 2 hours.

273 *Life Insurance, C.L.U.* A study of life insurance principles as required by The American College of Life Underwriters for employed life insurance salesmen. Credit, 4 hours.

274 *Life Insurance, C.L.U.* A study of economics, sociology, and political science as required by The American College of Life Underwriters for employed life insurance salesmen. Credit, 4 hours.

275 *Life Insurance, C.L.U.* A study of corporation finance, banking, and investments as required by The American College of Life Underwriters for employed life insurance salesmen. Credit, 4 hours.

276 *Life Insurance, C.L.U.* A study of law, trusts, and taxes as required by The American College of Life Underwriters for employed life insurance salesmen. Credit, 4 hours.

## Management

Bus. Ad. 116. *Hotel Administration.* Introductory course in hotel and motel management. A study of hotel and motel services and general layout, needs and expectations of guests, duties of the front office, purchasing, preparation and service of food, housekeeping, engineering, credit and collections, promotion and public relations. Credit, 2 hours.

215 *Business Organization and Management.* General principles of business organization and management, forms of business organizations and types of management. Prerequisites: Bus. Ad. 102, 132. Credit, 3 hours.

216 *Managerial Economics.* Bridges the gulf between economic theory and business decisions. Approaches managerial problems from an economic standpoint. Involves an application of economic analysis to practical business decisions in those areas of business policy where economic insight and research are most needed. Prerequisite: Bus. Ad. 133. Credit, 3 hours.

220g *Investments.* Analysis and evaluation of various types of securities. Business cycles, currency problems, and governmental control. Prerequisite: Bus. Ad. 132. Credit, 3 hours.

225 *Business Finance.* Practices, problems, and procurement of funds for small and medium size business. Prerequisites: Bus. Ad. 102, 132. Credit, 3 hours.

250g *Production Management and Control.* Study of the principal functions, departmental activities, and industrial policies of indus-

tries. Includes materials handling, statistical quality control, and production controls. Prerequisites: Bus. Ad. 215 or 174, and 224. Credit, 3 hours.

263g *Business Policies*. Analysis of problems covering management in its daily operations. Investigation of sound business principles and practices. Prerequisite: approval of instructor. Credit, 3 hours.

265 *Personnel Administration*. Personnel selection, placement, training, promotion, wage incentives, absenteeism, counseling, etc. Prerequisite: Bus. Ad. 132 or consent of instructor. Credit, 3 hours.

266g *Corporation Finance*. Promotion, corporate organization, financing, selling securities, dividend policies. Prerequisites: Bus. Ad. 102, 132. Credit, 3 hours.

268g *Business Research*. Techniques and procedures of general business research, statistical investigation, interpretation and presentation of results, with practical application applied to actual problems of the business community. Prerequisites: Bus. Ad. 173, 224. Fee, \$1.00. Credit, 3 hours.

289g *Job Evaluation and Methods Analysis*. Study of the establishment of standards through the development of the most efficient methods of performing manual and machine operations. Development of job descriptions through job evaluation. Selection procedures for finding individuals to meet job requirements. Prerequisite: Bus. Ad. 215 or permission of instructor. Credit, 3 hours.

## Marketing and Advertising

Bus. Ad. 171. *Introduction to Selling*. Training in the development of a good sales personality, and the fundamentals of selling. Prerequisite: Bus. Ad. 132 or concurrent registration. Fee, \$1.00. Credit, 2 hours.

173 *Principles of Marketing*. Survey of principles and trends. Prerequisite: Bus. Ad. 132 or concurrent registration. Credit, 3 hours.

174 *Marketing Practices*. Practices and problems confronting the marketing executive and the development of techniques found useful in their solution. Prerequisite: Bus. Ad. 173. Credit, 3 hours.

175 *Introduction to Advertising*. Introductory study of advertising theory and practice in relation to marketing and business management. Prerequisite: Bus. Ad. 173 or Journ. 130. Two lectures, 2 hours laboratory. Credit, 3 hours.

218 *Public Relations*. Publicity methods and public relations; representation of business firms and institutions to the public. Includes training on what constitutes newsworthy material and how to communicate it through newspapers, magazines, radio-television stations, and other media. Prerequisite: B.A. 175 or Jour. 130. Credit, 2 hours.

227 *Radio-Television Station Management*. Background in the organization, procedures, and policies of radio-television stations. Finan-

cial and creative basis of station operation. Consideration of personnel and production problems, relationship with advertising agencies, networks and sponsors. Prerequisites: Bus. Ad. 175 and Speech 234 or 236. Credit, 3 hours.

254 *Industrial Marketing*. An analysis of the marketing structure for industrial goods. Such problems as the industrial market, product lines, channels of distribution, selling, pricing, and warehousing are considered. Attention will be given to the marketing of installations, accessory equipment, operating supplies, and to fabricating materials and parts including agricultural implements and installations. Foreign markets for industrial equipment and the special problems of serving that market will be considered. Prerequisite: Bus. Ad. 174. Credit, 2 hours.

256 *Commodity Marketing*. The sources and conditions of supply; the nature and extent of demand; the channels of distribution used; functions performed by the various marketing agencies, including risk bearing; price-setting, and sales promotion. Prerequisite: Bus. Ad. 173. Credit, 3 hours.

277 *Principles of Retailing*. The scope of retailing, merchandise planning and control, purchases and inventory, markup, store system and store service. Prerequisites: Bus. Ad. 102, 173. Two lectures, 3 hours laboratory. Credit, 3 hours.

278g *Retail Store Management*. Problems of store management including location, layout, customer services, personnel, and operational factors as they affect successful retailing. Prerequisite: Bus. Ad. 277. Credit, 3 hours.

279 *Wholesaling*. Its organization and function in the marketing channel, services, price policies, regulation and recent trends. Prerequisite: Bus. Ad. 173. Credit, 2 hours.

280 *Advanced Selling*. The salesman's place in the marketing process including: the selling job, information about the firm, the product, the customer, and building good will. Includes practice in meeting sales situations. Prerequisites: Bus. Ad. 171, 174 and senior standing. Fee, \$1.00. Credit, 2 hours.

281g *Sales Management*. Determination of the selling job to be done; organization of the Sales Department; sales planning; selection, training, control, and compensation of the sales forces. Prerequisite: Bus. Ad. 283. Credit, 3 hours.

282 *Projects in Selling*. Supervised laboratory work in selling. Open to qualified students who are given actual selling assignments with business firms in the area. Prerequisites: Bus. Ad. 171, 174, 280. Six hours laboratory a week. Credit, 2 hours.

283 *Marketing Analysis*. Analysis of marketing data as a basis for use in solving marketing problems such as determining consumer demand, sales potentials and quotas and product development; and the preparation of reports, applications or findings and methods of follow-up. Prerequisite: Bus. Ad. 174. Fee, \$1.00. Credit, 3 hours.



284 *Purchasing*. Practices and problems confronting the purchasing agent, including sources of supply, market information, material specification and inspection, control records, inventories, stores, and the purchase budget. Prerequisite: Bus. Ad. 174 or 215. Credit, 3 hours.

286g *Advertising Management*. A study of advertising planning, media selection, and the creation of advertising matter, including preparation of complete advertising campaigns and the solving of typical advertising problems. Prerequisites: Bus. Ad. 174, 175. Credit, 3 hours.

287 *Radio and Television Advertising*. Techniques and problems of radio and television as advertising media including program selection and planning, preparation of continuity, and coordination with other forms of advertising. Prerequisite: Bus. Ad. 175. Fee, \$1.00. Credit, 3 hours.

288 *Newspaper Advertising*. A study of the special techniques and problems encountered in the use of newspapers as advertising media, together with practice in the preparation of advertising material. Prerequisite: Bus. Ad. 175. Two lectures plus laboratory work on the *State Press*. Credit, 3 hours.

293g *Price Policies*. Price making on organized exchanges; pricing and price systems. Prerequisites: Bus. Ad. 277, 279. Credit, 2 hours.

294g *Marketing Management*. An advanced study of the application of practices, techniques, and skills to the management of marketing problems. Prerequisites: Bus. Ad. 281, 283, 293. Credit, 2 hours.

295 *Projects in Advertising*. Supervised laboratory work open to qualified students who are given actual advertising assignments with business enterprises in the area. Prerequisite: Bus. Ad. 287 or 288. Six hours laboratory a week. Credit, 2 hours.

## Office Training and Management

Bus. Ad. 110 *Techniques in Typewriting*. Fundamentals of touch typewriting. Emphasis upon technique and development of vocational and personal-use skill. Not open to students with two semesters of high school typewriting. Fee, \$2.00. Four days per week. Credit, 2 hours.

111 *Basic Machine Shorthand*. A beginner's course. Mastery of the characters and principles of machine shorthand. Fee, \$10.00. Four hours per week. Credit, 2 hours.

112 *Intermediate Machine Shorthand*. A continuation of Bus. Ad. 111. Review of principles, and development of speed. Graded dictation and transcription. Fee, \$10.00. Four hours per week. Credit, 2 hours.

113 *Elementary Shorthand—Gregg*. The study and application of the principles of Gregg shorthand. Four days per week. Credit, 2 hours.

114 *Intermediate Shorthand—Gregg*. A continuation of Bus. Ad. 113 with increasing emphasis on dictation and transcription. Pre-

requisite: Bus. Ad. 113. Fee, \$1.00. Four days per week. Credit, 2 hours.

120 *Intermediate Typewriting.* Advanced instruction in applied typewriting with emphasis upon speed and accuracy development and other skill requirements needed in a modern office. Prerequisite: Bus. Ad. 110 or 2 semesters of high school typing. Fee, \$2.00. Four days per week. Credit, 2 hours.

121 *Projects in Typewriting.* Problems and projects related to modern practices in the business office. Prerequisite: Bus. Ad. 120. Fee, \$2.00. Four days per week. Credit, 2 hours.

143 *Office Machines.* Operation of selected office machines. Emphasis will be placed on the operation of adding-listing machines and calculators. Fee, \$5.00. Four days per week. Credit, 2 hours.

185 *Advanced Shorthand and Transcription.* Review of the principles of shorthand and continuing with graded dictation and transcription. Prerequisites: Bus. Ad. 114, 120. Fee, \$2.00. Three lectures, 2 hours laboratory. Credit, 3 hours.

186 *Transcription.* Integration of skills acquired in shorthand, typewriting, and related secretarial courses developed to a level of job proficiency. Prerequisite: Bus. Ad. 185. Fee, \$2.00. Three lectures, 2 hours laboratory. Credit, 3 hours.

234 *Office Appliances.* Instruction and practice in the operation of office machines and equipment. Operation of duplicating, recording, and transcribing machines. Development of speed on selected calculating machines. Fee, \$5.00. Four days per week. Credit, 2 hours.

237 *Medical-Dental Shorthand Terminology.* The development of shorthand skill in medical and dental terminology; training in the use of forms, records, and reports common to the medical and dental offices. Prerequisites: demonstration of competence in shorthand and typewriting; permission of instructor. Fee, \$2.00. Four days per week. Credit, 2 hours.

238 *Secretarial Office Practice and Problems.* Training in the operation of selected office equipment specifically designed for use by secretaries, and a study of the attitudes, personal characteristics, and procedures required of workers in the modern office. Prerequisites: Bus. Ad. 120, 185. Two lectures, 3 hours laboratory. Fee, \$5.00. Credit, 3 hours.

239 *Legal Secretaryship.* Legal terminology; sources of legal materials, special forms, common legal documents; organization of courts, legal procedures, testimony, depositions, trials. Prerequisites: Demonstration of competence in shorthand and typewriting; permission of instructor. Fee, \$2.00. Four periods per week. Credit, 2 hours.

242g *Office Organization and Procedures.* Practical office management, organization, arrangement, office systems and routines, layout, operation, and flow of work. Duties of office manager. Prerequisites: Bus. Ad. 143 or 234, 215, or approval of instructor. Credit, 3 hours.

243g *Office Management Techniques*. Employment and training of office workers; efficiency problems, forms, control, equipment and supplies, budgetary control, reports, work simplification; business ethics. Prerequisites: Bus. Ad. 215, 265; or approval of instructor. Credit, 2 hours.

## Real Estate

Bus. Ad. 151 *Introduction to Real Estate*. A study of real estate practices, appraisals, financing, and other pertinent subject matter. Prerequisites: Bus. Ad. 102, 132. Credit, 3 hours.

152 *Real Estate Management*. Management of commercial, residential, and farm property; rentals and leases; operation of the Real Estate Office. Prerequisites: Bus. Ad. 102, 151, and 171. Credit, 3 hours.

251 *Advanced Real Estate*. Appraisals, mortgages, and financing of Real Estate; insurance on real property; taxation and meeting of problems of the day to day operations of the Real Estate Office. Prerequisites: Bus. Ad. 151, 152. Credit, 3 hours.

252 *Real Estate Law*. Legal practices as they apply to the Real Estate field in general and to the field of titles, mortgages, lending, and trust work in particular. Prerequisites: Bus. Ad. 152, 206 or equivalent. Credit, 3 hours.

253g *Real Estate Land Development*. Neighborhood and city growth; municipal planning and zoning; development of sub-divisions; agricultural land utilization. Prerequisites: Bus. Ad. 132, 252 or equivalent. Credit, 3 hours.

## Education

McGRATH (Dean of the College), ABRAHAM, M. ANDERSON, AUSTIN,  
BELL, BENEDICT, NELL BYERS, DAVIS, FRENCH, HEIMANN,  
JELINEK, JAMES JONES, LEWIS, MANNING, MENKE,  
PODLICH, ROY RICE, H. D. RICHARDSON,  
ROVER, STOUT, VERGIS, WOCHNER.

## Childhood Education

Ed. 160 *Children's Literature*. Folk and modern literature for elementary school children; a study of types; wide reading. Credit, 3 hours.

161 *Techniques in Story Telling*. The art of story telling, preparation, adaptation, creative writing. Emphasis upon and practice in story telling to young children. Prerequisite: Ed. 160. Credit, 2 hours.

200g *Measurement and Evaluation in the Elementary School*. The evaluation of the child in a total learning situation is developed. Emphasis is placed on the broader scope of evaluation in terms of each activity in the school program. Credit, 3 hours.

201 *Language Arts in the Lower Elementary Grades.* Foundations of a developmental reading program for elementary majors. Integrated treatment of speaking, listening, manuscript writing, reading, creative writing, and spelling. Credit, 3 hours.

202 *Language Arts in the Upper Elementary Grades.* A continuation of the developmental reading program for elementary majors. Integrated treatment of study and recreatory types of reading, listening, speaking, cursive writing, spelling, creative and formal type writing. Credit, 3 hours.

203 *Reading and Language Arts in the Kindergarten-Primary Grades.* Emphasis on all phases of the language arts program in the kindergarten-primary grades. The philosophy and techniques of developmental reading and the areas of oral expression, creative writing, manuscript and cursive writing, and listening are included. Required of and open only to kindergarten primary students. Credit, 6 hours.

205 *Construction Activities in the Kindergarten Primary School.* Work with clay, paper, textiles, wood, paint, etc., contributing to creative expression in the integrated activity program. Fee, \$7.50. Eight hours a week. Credit, 4 hours.

209 *Kindergarten Primary Curriculum and Teaching Problems.* The philosophy, principles, and practices of kindergarten primary education; discusses all phases of the curriculum. Includes observations in nearby schools. Prerequisites: Ed. 205, 212, or approval of instructor. Fee, \$3.00. Three hours class, 3 hours observation a week. Credit, 4 hours.

212 *Plays and Games for the Kindergarten-Primary School.* Creative and traditional plays and games. A study of types, and actual playing of games for analysis and evaluation. Credit, 3 hours.

230g *Elementary Curriculum.* Principles, practices, and problems of teaching in the elementary school. Two hours of class and three hours of participation or three hours of class when participation is not available. Credit, 3 hours.

240g *Construction Activities in the Elementary School.* Use of textiles, paper, wood, paint, leather, plastics, and salvage materials. Experience in working with materials available to pupils in typical elementary school classrooms. Guidance in directing construction activities related to total instructional program. Fee, \$5.00. One lecture, 3 hours laboratory. Credit, 2 hours.

263 *Problems of Teachers in the Kindergarten-Primary School.* The study of individual problems encountered by students in their observations and practice teaching experiences; appraisal of teacher-education backgrounds; bridging of gaps in teacher education backgrounds. Prerequisite or co-requisite: Ed. 260. Credit, 3 hours.

264 *Problems of Teachers in the Elementary School.* The study of individual problems encountered by students in their observations and practice teaching experiences; appraisal of teacher-education back-

grounds; bridging of gaps in teacher-education backgrounds. Prerequisite or co requisite: Ed. 261. Credit, 3 hours.

303 *Evaluation of Children's Literature.* Social and educational concepts expressed in literature and changes in values and principles that are needed. Prerequisite: at least one course in literature. Credit, 2 hours.

308 *Play Education.* Treatment at an advanced level of the philosophies of play. Practical application to the utilization of rhythms, plays, and games. Credit, 3 hours.

309 *The Kindergarten Movement.* Development of the kindergarten; foreign influences contributing to its establishment; early pioneers; progressive techniques in kindergarten practice. Credit, 3 hours.

310 *Practices and Techniques in Construction Activities.* The place of construction materials and their function in the learning process. Experiences with diversified materials in terms of the specific needs of the teacher in the classroom situation. Fee, \$5.00. Credit, 3 hours.

311 *Planning, Organizing, and Establishing Kindergartens.* Practical steps for inaugurating a kindergarten program. Credit, 3 hours.

312 *Modern Elementary Curriculum Development.* Characteristics of an excellent learning environment in the elementary school; techniques of implementation. Credit, 2 hours.

313 *Reading and Language in the Kindergarten-Primary Curriculum.* Practical suggestions for meeting the reading needs encountered in teaching on the primary level. Special emphasis on diagnosis of unique problems faced by teachers in the reading and language arts program. Credit, 3 hours.

331 *Modern Practices in the Kindergarten Primary School.* Practices, materials, and policies with emphasis on curriculum trends, methods of instruction, pupil teacher and teacher-parent relationships. Prerequisites: Ed. 209, Ed. 230g, or the equivalent. Credit, 2 hours.

342 *Seminar in Elementary Education.* A survey of significant research studies in elementary education with emphasis on analysis, interpretation, and application to typical learning environments. Credit, 2 hours.

361 *Reading Problems at the Elementary School Level.* Practical suggestions for meeting the reading and language problems encountered in teaching at elementary school levels are treated with diagnosis of unique problems faced by members taking the course. Credit, 3 hours.

412 *Problems in Elementary Curriculum Development.* A systematic analysis of factors bearing upon the development of a qualitative learning environment in the modern elementary school. Research evaluation and intensive individual study of a fundamental problem in elementary curriculum development are included. Credit, 4 hours.

442 *Advanced Techniques in Elementary Education.* Extensive consideration of the research in elementary education which applies more specifically to the learning of tool and social skills. Formulation of

hypotheses and practices compatible with research findings; analysis of factors resisting change and of procedures to implement newer practices showing promise. Credit, 4 hours.

### Secondary Curriculum and Methods

Ed. 215 *Secondary School*. The principles of secondary education: its functions, objectives, curriculum, problems, and trends. Credit, 2 hours.

226g *Safety Education*. Various phases of safety education: home, school, and on-the-job. Emphasis on special interests of class members. Credit, 2 hours.

228 *Methods of Teaching in the Secondary School*. The procedures, methods, techniques, and instruments of teaching; relationship between methods of teaching and the curriculum; methods of teaching in high school subject areas. Credit, 4 hours.

229g *Driver Education*. The preparation of instructors for the secondary school. Includes the study of the automobile, Arizona laws pertaining to motor vehicles, and behind-the-wheel instruction. Prerequisites: Ed. 226 and a valid driver's license. Fee, \$7.50. Lectures and laboratory. Credit, 2 hours.

265 *Problems of Teachers in the Secondary School*. The study of individual problems encountered by students in their observations and practice teaching experiences; appraisal of teacher education backgrounds; bridging of gaps in teacher-education backgrounds. Prerequisite or co-requisite: Ed. 262. Credit, 3 hours.

332 *The Junior High School*. The development, population, organization, curriculum, purposes and methods of the Junior High School, with a major emphasis upon curriculum. Credit, 2 hours.

333 *Secondary School Curriculum Development*. Principles of the secondary school curriculum, methods and techniques of instruction, curriculum making programs and trends, and experimental practices. Credit, 3 hours.

334 *Directed Learning*. The principles of learning as they apply to the teaching-learning situations of the secondary school. The improvement of assignments, the use of class time, and the evaluation of learning outcomes. Credit, 3 hours.

340 *Improving Instruction in the Secondary School*. The principles of teaching and their significance, considered in terms of the needs of the members of the class. Individual and group work in the fields of interest. Credit, 3 hours.

341 *Evaluation of Learning*. Essential steps in evaluating learning; the discovery and formulation of objectives, and the use of techniques and skills in ascertaining the extent to which pupils achieve these objectives. Credit, 2 hours.

347 *The Junior College*. The development, population, organization, curriculum, purposes, and methods of the Junior College, with a major emphasis upon methods of teaching. Credit, 2 hours.

362 *Reading Problems at the High School Level.* Practical suggestions for meeting the reading and language problems encountered by junior and senior high school pupils. Credit, 2 hours.

370 *Student Activities in the Secondary School.* A comprehensive study of all phases of an "extracurricular" program including the development, purposes, and principles of student activities concerned with school publications, student government, athletics, clubs, and others, as they are related to the educational program of the secondary school. Credit, 3 hours.

433 *Problems in Secondary Curriculum Development.* A systematic analysis of factors bearing upon the development of a qualitative learning environment in the modern secondary school. Research evaluation and individual study of a fundamental problem in secondary curriculum development are included. Credit, 4 hours.

440 *Seminar: Improvement of Instruction in the Secondary School.* Extensive reading and group discussions on the theory of method and sound principles of instruction with their significance for modern secondary education. Credit, 4 hours.

### School Administration and Supervision

Ed. 270g. *Supervision of Instruction.* The growth and development of modern supervisory concepts. The nature of supervisory principles and practices. Structural and administrative organization of supervision. Problems of supervision, and the evaluation of supervisory functions as related to the role of the military supervisor. Primarily for military personnel. Credit, 3 hours.

302 *Curriculum Determination and Construction.* Administrative aspects of curriculum construction and improvement are emphasized after an analysis of general principles and criteria effective in formulating curriculum practices. Recommended prerequisite: basic course in elementary or secondary school curriculum. Credit, 2 hours.

315 *Public School Administration.* An introductory course in school administration which emphasizes problems of general control, organization, and personnel administration in public education. Credit, 2 hours.

330 *Public School Surveys.* The history and development of public school surveys, with a critical study of current practices, trends, and objectives. Practical experience will be provided in collecting and preparing survey data. Credit, 2 hours.

336 *Public School Supervision.* A general introductory course in school supervision with emphasis upon principles, types, aims, techniques, and evaluation of supervisory programs. Credit, 2 hours.

337 *Public School Finance.* A study is made of methods and problems of financing public education and current problems in school support. Attention is also given to the preparation of the school budget and financial accounting systems for use in schools. Credit, 2 hours.

338 *School House Planning and Maintenance.* Includes planning building programs, school plant, school furniture and equipment, maintenance, financing, and legal regulations of school construction. Credit, 2 hours.

339 *School Community Relationships.* A study is made of principles, philosophy, and techniques for improving the educational program through school-community action. Special attention is given to the role of the school administrator in coordinating school-community experiences. Credit, 2 hours.

345 *Supervision of Student Teaching.* Designed to provide experiences and content for those planning to become supervisors of student teaching in teacher education programs. Also serves as in-service training for those already working in student teaching. Credit, 2 hours.

346 *Adult Education.* Attention is focused upon the historical development, objectives, scope, trends, and significance of adult education. The student will examine the philosophy and trends of adult education in relation to desirable present and future local public school programs. Credit, 3 hours.

358 *School Budget Preparation and Control.* Principles and techniques of budgetary preparation and control relative to financial accounting, auditing, reporting, and management of property and supplies. Credit, 3 hours.

359 *School Personnel Administration.* A study of the organization and problems involved in administering services pertaining to faculty and staff personnel such as selection, placement, transfer, welfare, remuneration, and morale. Credit, 3 hours.

364 *Arizona School System, Laws, and Records.* The organization and legal set up of the Arizona school system, with special reference to the work of the teacher and administrator. Credit, 2 hours.

365 *Functions of the Principal.* The duties of school principals are approached through an analysis of the principles, procedures, and techniques in the administration of secondary and elementary schools. Credit, 3 hours.

414 *The Administrator and School Community Planning.* A study of the various basic areas of school community integration and improvement; applications are made in school surveys, finance, evaluation of school systems, and cooperative development of local school systems. Credit, 4 hours.

416 *Leadership in Education.* Special emphasis is given the role of the school administrator in curriculum improvement. Processes and conditions for a professional climate contributing to effective educational leadership are stressed. Credit, 4 hours.

419 *Instructional Improvement Through Modern Supervision.* Organization, personnel, and procedures involved in upgrading instruction through supervisory practices. Democratic theory, creative school



control, and supervisor teacher relationships are included. Credit, 4 hours.

446 *Adult Education*. A study is made of existing types, methods, and administration of adult programs. Emphasis is given to ways and means of implementing adult activity and to the use of adult activity in the study and improvement of educational services provided in local communities. Each student will participate in a research study of some area of adult education. Prerequisite: Ed. 346. Credit, 4 hours.

### Audio Visual Education

Ed. 231g *Photography in Public Education*. A laboratory course in the fundamentals of photography and darkroom procedure. For the teacher who wishes to use photography in preparing instructional materials. Fee, \$10.00. One hour class, 3 hours laboratory. Credit, 2 hours.

233 *Audio-Visual Aids in Education*. Principles underlying the selection and use of materials for instructional purposes. Laboratory experiences include the operation of equipment and the selection, preparation, and evaluation of audio visual materials. One hour class, 3 hours laboratory. Fee, \$5.00. Credit, 2 hours.

234g *Radio and Television in Education*. For students and teachers interested in making more effective use of radio and television broadcasts in the classroom situation. Designed to acquaint teachers with the possibilities available and the means of adapting materials for learning experiences. Credit, 2 hours.

237g *Production of Audio-Visual Aids*. Making of photographs, slides, filmstrips, motion pictures, and recordings. Preparation of scripts. Technical problems of production. Prerequisite: Ed. 231. Fee, \$10.00. One hour class, 3 hours laboratory. Credit, 2 hours.

323 *Audio Visual Methods*. Principles of audio-visual methods of teaching. Survey of literature of field, and experience in constructing teaching units. Not open to students having credit in Ed. 233. One hour class, 3 hours laboratory. Credit, 2 hours.

329 *Administration of Audio-Visual Aids Programs*. The qualifications and duties of the director, preparing the budget, buying equipment, handling materials, in service training, and evaluation of the program. Credit, 2 hours.

343 *Theory and Research in Audio-Visual Education*. A survey of the history, literature, and research in the field with implications for production and for classroom utilization of audio-visual materials. Prerequisite: Ed. 233 or 323. Credit, 2 hours.

344 *Seminar in Audio-Visual Education*. An analysis of typical problems confronting audio-visual services in schools with discussion of plausible solutions. Credit, 2 hours.

## Guidance

Ed. 304 *Basic Course in Guidance*. An introduction to the areas of guidance with consideration of the interrelation of the various guidance services. Prerequisite to other courses in the guidance sequence. Credit, 3 hours.

320 *Counseling*. Intensive individual studies of normal youth in a school setting, and application of principles, methods, and techniques of counseling with them. Prerequisite or co-requisite: Ed. 304, 321, 371, 325. Credit, 3 hours.

321 *Techniques of Guidance in the Elementary School*. Nature and use of interview, tests, inventories, records and reports, observations, rating scales, and the case study, as applied to the elementary school. Prerequisite: Ed. 304. Credit, 2 hours.

325 *Vocational Guidance*. Examination and evaluation of standardized tests and application of their use in vocational counseling. Theories of vocational choice and consideration of factors involved in vocational counseling. Prerequisite or co-requisite: Ed. 304. Credit, 3 hours.

326 *Educational and Occupational Information*. Selection, utilization, and evaluation of educational and occupational information materials. Familiarization with standard labor market data and materials, and sources of information concerning training opportunities. Prerequisite or co-requisite: Ed. 304. Credit 2 hours.

327 *Organization and Administration of Guidance Programs*. Organizational procedures and patterns, and administrative relationships of school personnel functioning in the guidance program. Prerequisites: At least three of the following courses: Ed. 304, 321, 326, 371, 373. Credit, 2 hours.

328 *Supervised Practice in Guidance*. Actual assignment in a public school guidance program and opportunity for real experience under supervision. Prerequisite: Consent of instructor. Credit, 2-6 hours.

371 *Analysis of the Individual*. Nature and use of techniques employed in the appraisal of the individual, including the interview, observation, rating scales, records and reports, autobiographies and other personal documents, case study, and case conference as applied to the secondary school. Prerequisite or co-requisite: Ed. 304. Credit, 3 hours.

373 *Group Guidance*. Principles and techniques of guidance through the homeroom, orientation courses, co-curricular activities, and the classroom. Prerequisites: Ed. 304, 321, 325, 371. Credit, 3 hours.

406 *Seminar in Guidance*. Advanced procedures in analysis of the individual and counseling. Organization of guidance services and professional relationships in the elementary and secondary schools and in colleges and universities. Credit, 4 hours.

420 *Research Problems in Guidance.* Students are expected to familiarize themselves with outstanding research undertakings during the past 15 years. Each will conduct one or more research projects dealing either with a guidance problem growing out of individual situations or as preparatory to a more exhaustive project suitable for his doctoral thesis. Credit, 4 hours.

### Social Foundations

Ed. 211g *History of Education.* The social life, ideas, and institutions that gave direction to western education. A background for understanding and evaluating present educational and social problems. Credit, 3 hours.

216g *Educational Sociology.* A study of education in relation to social institutions. Considers methods of gathering data in social research, the family, problems of educational reconstruction, social relationships, and social measurements. Credit, 3 hours.

250g *Philosophy of Education.* A study of social and educational theories. An examination of some of the assumptions on which various philosophies of education rest. An introduction to considerations necessary for the development of a systematic and consistent philosophy of education. Credit, 3 hours.

305 *School and Society.* An analysis of the interrelationship of school and society and the place of education in social change. Credit, 3 hours.

306 *Education and Democratic Values.* A consideration of education as a moral enterprise in which the school seeks to cultivate selected values by the subject matters and methods it employs in its program. Credit, 2 hours.

307. *Comparative Education.* A study of contemporary education in other lands with implications for the United States educational structure. Credit, 2 hours.

348 *Philosophic Foundations of Education.* The aim is to evaluate assumptions on which different philosophies rest with a view to constructing a philosophy to meet the needs of modern life. Credit, 3 hours.

349 *Education Classics.* An analysis of some major philosophies of education from the past for the purpose of finding useful suggestions for dealing with present educational problems. Credit, 2 hours.

378 *Seminar in Philosophy of Education.* An intensive study of crucial issues in contemporary educational philosophy. Prerequisite: Ed. 348. Credit, 3 hours.

439 *Historical and Social Foundations.* A study of institutions, human relations, and social forces influencing the nature of educational problems current in American society. Significant cultural trends are treated from local, national, and international perspective. Credit, 4 hours.

## Special Education

Ed. 380 *Curriculum for and Methods of Teaching the Mentally Retarded and the Gifted Child.* An introduction to mentally retarded and gifted children, including their needs and characteristics, appropriate materials and methods, teacher qualifications, educability and special problems. Credit, 3 hours.

381 *Curriculum for and Methods of Teaching the Bilingual Child.* An introduction to the study of Spanish-American and Indian children, including their educational needs, materials and methods appropriate to their backgrounds and language problems. Credit, 3 hours.

## Basic Education and Unclassified Courses

Ed. 101 *Exploration of the Teaching Profession.* The profession of teaching; teaching as a career; competencies in teaching; self appraisal. Personal counseling with members of the staff of the College of Education. Credit, 3 hours.

115 *Orientation to Education.* Deals with teacher supply and demand, qualities which are associated with successful teaching, the professional responsibilities of teachers, and areas of specialization open to teachers. Provides for individual and group guidance. Credit, 2 hours.

206 *Foundations of Education.* The study of childhood and youth; physical, motor, intellectual, social, emotional and moral development of students, and the observing, recording, and interpreting of human behavior; functional concepts of learning; modern theories of education. Prerequisite: Ed. 101. Credit, 3 hours.

207 *Fundamentals of Teaching.* The basic principles of teaching; appraisal of learning and instruction; relationship between instruction and the curriculum; philosophical basis of instruction and the curriculum; observation of teaching practices. Prerequisite: Ed. 206. Credit, 3 hours.

259 *Observation and Participation in the Elementary School.* This course provides an opportunity for students to observe and work directly with elementary children in a classroom situation. It includes a critical evaluation of the student's experiences. Credit, 3 hours.

260 *Directed Teaching in the Kindergarten-Primary School.* The relationship of theory and practice in methods of teaching; the practice of teaching; practice in guidance, measurement, extra-curricular activities, and classroom management procedures. Credit, 6 10 hours.

261 *Directed Teaching in the Elementary School.* The relationship of theory and practice in methods of teaching; the practice of teaching; practice in guidance, measurement, extra-curricular activities, and classroom management procedures. Credit, 6 10 hours.

262 *Directed Teaching in the Secondary School...* The Relationship of theory and practice in methods of teaching; the practice of teach-

ing; practice in guidance, measurement, extra-curricular activities, and classroom management procedures. Prerequisite: Ed. 228. Credit, 6-10 hours.

300 *Educational Research and Scientific Method*. Acquaints the student with the essential steps in scientific method and with the techniques and skills used in educational research. Required of all candidates for the master's degree. Credit, 2 hours.

350 *Curriculum Workshop*. An intensive study of student selected curriculum problems, directed by regular staff and visiting consultants. Recommended for in service training of teachers, supervisors, and administrators. Credit, 3 or 6 hours.

399 *Thesis or Practicum*. For students who write a master's thesis or practicum. Prerequisite: Enrollment in the Master's Degree Program. No scheduled class meetings. Open for credit for period of two years from time of registration. Credit, 4 hours.

400 *Research in Education*. Advanced procedures of research in education; special techniques and investigations in selected educational fields. Credit, 4 hours.

413 *Psychological Foundations in Education*. Implications for practice from research and psychological investigations in human learning as applied to curriculum, method, evaluation, and educational leadership. Credit, 4 hours.

430 *Field Work and Surveys*. Observation and participation in work study programs in selected schools. Available in guidance, administration and supervision, secondary education, or elementary education. Prerequisite: Consent of doctoral adviser. Credit, 4 hours.

456 *Advanced Statistical Methods in Education*. Theory, computation, and application of bi-serial tetrachoric, contingency, rank-order, and curvilinear coefficients of correlation; analysis of variance and chi-square. Credit, 4 hours.

489 *Seminar: Problems, Issues, and Trends in Education*. Extensive group discussions concerning the impact of theories and practices in such area as administration, curriculum, evaluation, guidance, methods, philosophy, psychology, and research upon basically important problems, issues, and trends in education. Credit, 4 hours.

499 *Dissertation*. Ordinarily designed to require two semesters of intensive application to a problem in education. A scholarly piece of work is required. Credit.

## English

MYERS, (Head of Department), FRANK BYERS, CONLIN, HENSHAW,  
HOPINS, HUBER, KEENAN, LAVIN, OSENBURG, PLUMMER, PORTNOFF,  
RATLIFF, SCHILLING, SOUTHERN, STEPHENS, STITES,  
TAYLOR, KATHERINE TURNER, WELSH, WILLSON,  
ZIMMERMAN.

### Literature and Language

Eng. X. *Remedial English*. A sub-collegiate course for students who fail to pass the college placement examination in English. Such

students are required to complete this course satisfactorily before they may be admitted to Eng. 101. Clinical facilities for discovering and attempting to eliminate causes of individual difficulties. Counts on course load, but carries no credit. Fee, \$3.00. Three hours per week.

101 *First Year English*. Narrative and descriptive writing; emphasis on paragraph structure, correctness in English fundamentals, exactness and concreteness of statement; dictionary and library practice; intensive and extensive reading. Credit, 3 hours.

102 *First Year English*. Expository writing; emphasis on organizing and unifying long papers, improvement in style, expansion of vocabulary. Introduction to word study; practice in research, including the writing of a model term paper. Intensive and extensive reading. Prerequisite: Eng. 101. Credit, 3 hours.

103, 104 *Directed Reading for English Majors and Minors*. Supervised reading with a weekly individual conference with instructor. Credit, 1 hour each.

128 *Advanced Composition*. For students interested in further training in organization and expression of ideas. Factual and imaginative discourse are treated. Prerequisite: Eng. 102. Credit, 3 hours.

151 *Survey of English Literature*. English literature considered chronologically against the social and political background from Anglo Saxon times to the end of the eighteenth century. Prerequisite: Eng. 102. Primarily for English majors and minors. Credit, 3 hours.

152 *Survey of English Literature*. Nineteenth century literature. The major writers in relation to the aesthetic, social, and economic trends of the century. Prerequisite: Eng. 102. Credit, 3 hours.

153 *World Literature—The Classical and Medieval Periods*. Selections from the great literature of the world in translation and lectures on the cultural background of the writings. Prerequisite: Eng. 101. Credit, 3 hours.

154 *World Literature—The Renaissance and Modern Periods*. A continuation of Eng. 153. Selections from the great literature of the world in translation, and lectures on the cultural background of the writings. Prerequisite: Eng. 101. Credit, 3 hours.

171 *Introduction to Literature*. An introduction to literature through literary types, designed for students not majoring in English. Selections taken mainly from modern writers. Credit, 3 hours.

172 *Introduction to Literature*. May be taken as a continuation of 171, but 171 is not a prerequisite. Credit, 3 hours.

201g *Development of the Novel*. From the origins of prose fiction to 1850. Analysis of typical examples and reading of outside assignments. Prerequisite: Eng. 152. Credit, 3 hours.

203g *History of the Drama*. The English drama from the Middle Ages to the present with selective examples of foreign influences. Reading of representative plays of each period. Prerequisite: Eng. 152. Credit, 3 hours.

205g *Shakespeare: The Tragedies*. Critical study of five plays. An introduction to the problems of Shakespearean scholarship. Prerequisite: Eng. 151. Credit, 3 hours.

206g *Shakespeare: The Comedies*. A rapid reading of all the comedies. Studies of the comic spirit and Shakespeare's comic genius. Prerequisite: Eng. 151. Credit, 3 hours.

209g *Age of Johnson*. The chief writers, movements, and books during Johnson's career as a dominating literary figure, together with their most important relationships to predecessors and followers. Prerequisites: Eng. 151, 152. Credit, 3 hours.

211g *Nineteenth Century Poetry: Romantic Period*. Study of and readings in the poetry of Wordsworth, Coleridge, Shelley, Keats, Byron. Prerequisite: Eng. 152. Credit, 3 hours.

212g *Nineteenth Century Poetry: Victorian Period*. The poetry of the second half of the century. Special study of Tennyson, Browning, Arnold. Prerequisite: Eng. 152. Credit, 3 hours.

213g *Modern Fiction*. A study of the modern novel beginning with Flaubert and ending with Conrad. Prerequisite: Eng. 152. Credit, 3 hours.

214 *Contemporary Fiction*. A study of important contemporary writers; their careers and distinctive traits, with particular attention to the relationship of their ideas with present day problems. Prerequisite: Eng. 152. Credit, 3 hours.

215 *Contemporary British Poetry*. British poetry of the twentieth century; techniques, aims, and significance. Prerequisite: Eng. 152. Credit, 3 hours.

216 *Contemporary American Poetry*. American poetry of the twentieth century; techniques, aims, and significance. Prerequisite: Eng. 152. Credit, 3 hours.

217g *Modern Drama*. The chief dramatic writers of the generation preceding World War I, with special attention to experimental techniques. Prerequisite: Eng. 152. Credit, 3 hours.

218g *Contemporary American Drama*. A study of the American Drama since World War I, with special attention to experimental techniques. Prerequisite: Eng. 152. Credit, 3 hours.

221 *American Literature*. From colonial times to the Civil War, including the growth of nationalism and the rise of the New England school. Open to those specializing in other departments who have junior standing. Prerequisite: Eng. 102. Credit, 3 hours.

222 *American Literature*. From Whitman to the present. The influence of westward expansion, the growth of regionalism, the literature of social protest. Open to those specializing in other departments who have junior standing. Prerequisite: Eng. 102. Credit, 3 hours.

223g *Milton*. The life of Milton, his relation to the literary and social background of his period, and textual study of his chief works. Prerequisite: Eng. 151. Credit, 3 hours.

226 *Short Story*. The development of the short story as a literary form; analysis of its technique through study of examples from the work of representative authors. Prerequisite: Eng. 152. Credit, 3 hours.

227g *The Form of Verse: Theory and Practice*. A study of the types, history, criticism, and schools of theory of metrical form. Analysis of lyric, narrative, and dramatic poetry. Original verse writing optional. Prerequisite: one semester survey of American or British literature, or equivalent. Credit, 2 hours.

231g *Literature for Junior and Senior High School Students*. A study of prose and poetry which meet the interests, desires and capabilities of the high school boy and girl. Recent literature stressed. Prerequisites: Eng. 152; Ed. 215, and Ed. 228e. Credit, 3 hours.

234g *Creative Writing*. Writing laboratory. Lectures and conferences dealing with the various forms of imaginative writing. Prerequisite: Eng. 128. Credit, 3 hours.

235g *Creative Writing*. Continuation of Eng. 234g. Prerequisite: Eng. 234g or consent of instructor. Credit, 3 hours.

244g *Chaucer*. A study of Chaucer's language, poetry, and intellectual background. Prerequisite: Eng. 151. Credit, 3 hours.

252 *Introduction to Semantics*. Nature of meaning and the function of language, designed to improve accuracy of communication and to provide a technique for analyzing false or misleading statements. Prerequisite: junior standing. Credit, 2 hours.

253g *History of the English Language*. Development of the language from the earliest times to the modern period. Prerequisites: Eng. 128, 151. Credit, 3 hours.

254g *Current English Usage*. Recent changes and current trends in the language, with emphasis on American English and the factual basis of grammar. Prerequisites: Eng. 128, 151. Credit, 3 hours.

261g *Professional Writing*. Lectures and conferences concerning techniques of writing for publication. Prerequisites: Eng. 128, 234 or consent of instructor. Credit, 3 hours.

300. *Seminar in Methods of Research in English*. A study of the various types of research in literary scholarship. Credit, 3 hours.

302 *Seminar in Criticism*. A study of the development of critical theories and their application to English literature. Credit, 3 hours.

310 *Seminar in English Education*. Primarily for in service teachers. A general problem will be selected each time the course is offered. Each student will work individually on a phase of this. Credit, 3 hours.

## Speech and Dramatics

Speech 110 *Elements of Speech*. Adjustment to the speech situation; obtaining and organizing material. The conversational mode;



articulation, pronunciation, and tone; bodily movement. Not open to freshmen. Credit, 2 hours.

115 *Speech Fundamentals*. An introduction to the physical and functional bases of speech production. Required of Speech majors and minors, who may substitute it for Spch. 110 as a prerequisite for advanced courses in Speech. Credit, 2 hours.

119 *Introduction to Drama*. A study of the various types of drama with reference to their theatric representation. Credit, 3 hours.

120 *Public Speaking*. Organization and delivery of various types of speeches. Emphasis on types which occur most often in everyday life. Prerequisite: Spch. 110 or consent of instructor. Credit, 2 hours.

122 *Acting*. Reading in theory; laboratory projects. Prerequisites: Spch. 110, 119. Credit, 3 hours.

125 *Voice and Diction*. A course designed to develop and improve the speaking voice. Background discussion and individual and group exercises and drills. Prerequisite: Spch. 110 or 115. Credit, 2 hours.

127 *Principles of Argumentation*. Construction and delivery of various types of argumentative speeches. Essential to students engaging in intercollegiate debate. Prerequisite: Spch. 110. Credit, 2 hours.

129 *Principles and Methods of Discussion*. The use of reflective thinking in learning and policy determining groups. The panel, dialogue, symposium, and forum lecture. Prerequisite: Spch. 110. Credit, 2 hours.

170 *Radio and Television Speech*. An analysis of the growth and development of radio and television and a study of operational procedure in stations. Microphone delivery and practice in the utilization of sound, music, and scripts. Preparation and presentation of specialized types of radio speaking. Prerequisite: Spch. 110. Fee, \$1.00. Credit, 3 hours.

210 *Radio-TV Drama*. The production of both radio drama and television drama, with emphasis on acting techniques appropriate to each form. Prerequisites: Spch. 110, 170. Fee, \$1.00. Credit, 3 hours.

215 *Business and Professional Speech*. A study of business and professional speech situations. Conversations; interviews; conferences; speeches of good will, to inform, and to persuade. Reading written reports; radio speaking; and banquet speaking. Prerequisite: Spch. 110. Credit, 3 hours.

221 *Oral Interpretation*. Techniques of the reading aloud of prose, poetry, and drama. Prerequisite: Spch. 110 or 115. Credit, 3 hours.

227 *Intercollegiate Debate*. Preparation for and participation in intercollegiate debates. Prerequisites: Spch. 110, 127 or consent of instructor. Credit, 2 hours.

228 *Intercollegiate Debate*. Continuation of Spch. 227. Prerequisite: Spch. 227. Credit, 2 hours.

229 *Intercollegiate Debate*. Continuation of Spch. 228. Prerequisite: Spch. 228. Credit, 2 hours.

230 *Creative Dramatics*. Methods of making a play from a lesson or story, helping children to improvise their own roles; selection of literature and subject matter suitable for play making. Laboratory work with school children during latter part of course. Prerequisites: Spch. 110 or 121. Credit, 3 hours.

232 *Radio Writing and Production*. Principles of writing and production of non-dramatic radio programs, and application of these principles through writing and producing programs on KASC. Prerequisite: Spch. 170. Two hours class, 2 hours laboratory. Credit, 3 hours.

235 *Play Production*. Problems connected with staging of plays in elementary and secondary schools. Prerequisites: Spch. 110, 119. Credit, 3 hours.

236g *Television Writing and Production*. Principles and techniques of writing for television. Practical experience in the production of television programs through specific responsibilities for College programs. Prerequisite: Spch. 170. Two hours class, 2 hours laboratory. Credit, 3 hours.

240 *Children's Theatre*. Formal dramatics for children. The selection and production of plays and pageants suitable for children through the elementary grades. Prerequisites: Spch. 110 or 121. Credit, 3 hours.

257g *Speech Correction*. Cause and correction of disorders of speech. Prerequisite: Spch. 110. Three times a week. Credit, 3 hours.

258g *Advanced Speech Correction*. A clinical-laboratory course for practice in correction of speech defects. Seminar for extensive acquaintanceship with literature in the field. Prerequisite: Spch. 257. One hour lecture, 2 hours clinic a week. Credit, 2 hours.

259g *Clinical Practice in Speech Correction*. A laboratory course consisting of case treatment of speech disorders in the College Speech Clinic. Prerequisites: Spch. 257 and 258. Credit, 1-3 hours. Note: This course may be taken for more than one semester.

260g *Phonetics*. Study of phonetics, including phonetic symbols, the production, the general characteristics and the application of the sounds of American speech to the acquisition and teaching of good pronunciation. Prerequisite: Spch. 110. Credit, 2 hours.

## Journalism

Jour. 130 *Introduction to Communications*. General survey of the communications industry, including the press, radio, and television; basic concepts of news, news values, and reporting of news; fundamentals of journalism; laboratory practice in news-gathering and news-writing. Prerequisite: Eng. 101. Fee, \$1.00. Two lectures, 2 laboratory hours. Credit, 3 hours.

140 *Journalism: Reporting.* Study and practice in the coverage and writing of news; structure of the news story and development of news values; laboratory practice; experience as reporter on the *State Press*. Prerequisite: Jour. 130. Fee, \$1.00. One lecture, 4 laboratory hours. Credit, 3 hours.

141 *Advanced Reporting.* Continuation of Jour. 140. Main types and sources of news; interviewing and re-writing; laboratory and *State Press* experience. Prerequisite: Jour. 140. Fee, \$1.00. One lecture, 4 laboratory hours. Credit, 3 hours.

201 *News Photography.* Instruction with field and laboratory practice in camera and darkroom techniques for newspaper and magazine photographic work. Prerequisites: Jour. 130; Art 111, or permission of instructor. Fee, \$10.00. One lecture, 3 hours activity. Credit, 2 hours.

235g *Advising High School Publications.* A course designed for high school journalism advisers. Problems of annual and newspaper staffs discussed. Credit, 2 hours.

241 *Communications Law.* Legal aspects of the rights and responsibilities of the press, radio, and television; regulations, restrictions, and "the people's right to know"; basic features of the law of libel, privilege, contempts, copyrights, access to information; background of court reporting. Prerequisite: Jour. 141. Credit, 3 hours.

242g *Editorial Interpretation.* The press as an influence upon public opinion. The byline story, editorial, and work of the columnists, in analyzing and interpreting current events. Prerequisite: Jour. 141. Credit, 2 hours.

243 *Copy Reading and Editing.* Practical work in copy reading and headline writing; use of the stylebook; accuracy and speed in handling copy; typography; principles of makeup. Prerequisite: Jour. 141. Credit, 3 hours.

244 *History of Journalism.* Development of American journalism from colonial times to the present, projecting the press as an institution against a background of the history of the nation. Prerequisite: Jour. 141. Credit, 2 hours.

245 *Radio News.* Technic and practices of editing and preparing local and wire news copy for radio news broadcasts; laboratory practice in preparation of same for actual broadcasting. Prerequisite: Jour. 141. Credit, 2 hours.

250 *Staff Activity.* Experience and responsibility of editing and making up a complete newspaper as a member of its masthead staff. The College newspaper, the *State Press*, is used as the laboratory or work-project for this class. Prerequisite: Jour. 243. Credit, 2 hours.

251 *News Problems and Policies.* Seminar in journalism with emphasis upon major difficulties encountered and editorial decisions required in the writing, handling and publishing of news. Prerequisite: Jour. 241 or 242. Credit, 2 hours.

299 *Special Assignment*. Selection and performance of a major project or projects on an individual basis. Prerequisites: Jour. 241, 242, 250. Credit, 2 to 5 hours.

## Foreign Languages

WILSON (Head of Department), ESCUDERO, EVERETT, VON DER HEYDT, WALL.\*

### Foreign Language

For. Lang. 100 *Introduction to Foreign Languages*. This course portrays the significance of languages in society, including study of the history of language, family relationships existing among languages, word relationships, and meanings. Emphasis will be upon languages of Western Europe with some reference to Slavic and Oriental tongues. Credit, 2 hours.

### French

Fr. 101 *Elementary French*. Gradual study of French sounds. Collateral teaching of reading, writing and speaking through the direct method. For beginners. Credit, 4 hours.

102 *Elementary French*. Continuation of Fr. 101. Optional outside reading. Prerequisite: Fr. 101. Credit, 4 hours.

103 *Intermediate French*. Grammar review. Systematic study of verbs. Reading of a novel or a play. Conversation. Prerequisite: Fr. 102. Credit, 4 hours.

104 *Intermediate French*. Continuation of Fr. 103. Prerequisite: Fr. 103. Credit, 4 hours.

110 *Practical Phonetics for Singers*. To acquaint singers with the fundamentals of French phonetics and sound production. Correct pronunciation in reading and singing. Credit, 2 hours.

120 *French Composition and Conversation*. Composition and conversation based on materials concerning the social and cultural background of France. Prerequisite: Fr. 104. Credit, 2 hours.

121 *French Composition and Conversation*. Continuation of Fr. 120. Prerequisite: Fr. 104. Credit, 2 hours.

205 *Survey of French Literature*. French literature from its beginnings to the end of the seventeenth century; readings and reports on selections from major authors; readings from the earliest documents will be done in English translations. Prerequisite: Fr. 104 or consent of instructor. Credit, 3 hours.

206 *Survey of French Literature*. Continuation of Fr. 205. The writers of the eighteenth, nineteenth, and twentieth centuries; readings from selected authors such as Voltaire, Rousseau, Victor Hugo, Marcel Proust, and Andre Gide. Prerequisite: Fr. 104 or consent of instructor. Credit, 3 hours.

\*Special Faculty

## German

Ger. 101 *Elementary German*. Grammar, reading and conversation. Credit, 4 hours.

102 *Elementary German*. Continuation of Ger. 101, with emphasis on reading and conversation. Prerequisite: Ger. 101. Credit, 4 hours.

103 *Intermediate German*. Reading of modern novels, plays and short stories, composition and conversation. Prerequisite: Ger. 102. Credit, 4 hours.

104 *Intermediate German*. Continuation of Ger. 103, with more emphasis on rapid reading. Prerequisite: Ger. 103. Credit, 4 hours.

106 *Scientific German*. Introductory readings in the various branches of science, with analysis of the special syntactical practices peculiar to scientific German. Prerequisite: Ger. 103. Credit, 3 hours.

110 *Practical Phonetics for Singers*. To acquaint singers with the fundamentals and the elements of German phonetics and sound production. Correct pronunciation in reading and singing. Credit, 2 hours.

120 *German Composition and Conversation*. Composition and conversation based on materials concerning the social and cultural background of Germany. Prerequisite: Ger. 104. Credit, 2 hours.

121 *German Composition and Conversation*. Continuation of Ger. 120. Prerequisite: Ger. 120. Credit, 2 hours.

205 *Survey of German Literature*. German literature from its beginnings; the Middle Ages through the Period of Reformation, Renaissance and Rococo to the Age of Classic Achievement. Prerequisite: Ger. 104 or consent of instructor. Credit, 3 hours.

206 *Survey of German Literature*. German literature from the middle of the 18th century to the present; works and writers in the Age of Enlightenment and the Storm and Stress Movement; special emphasis on the Classical period. Prerequisite: Ger. 104 or consent of instructor. Credit, 3 hours.

## Latin

Lat. 101 *Elementary Latin*. A beginner's course. Emphasizes vocabulary and derivations rather than grammar. Credit, 4 hours.

102 *Elementary Latin*. Continuation of Lat. 101 with use of a simple Latin reader. Prerequisite: Lat. 101. Credit, 4 hours.

103 *Intermediate Latin*. Readings from the orations of Cicero; attention also to the political and social conditions of Rome during the first century B.C. Prerequisite: Lat. 102 or equivalent. Credit, 4 hours.

104 *Intermediate Latin*. Readings from the first six books of the *Aeneid*; selected readings from other authors. Prerequisite: Lat. 102 or equivalent. Credit, 4 hours.

## Russian

Rus. 101 *Elementary Russian*. Study of Russian sounds, vocabulary, and grammar essential for simple oral and written composition. Credit, 4 hours.

102 *Elementary Russian*. Continuation of Rus. 101. Emphasis on reading and conversation. Prerequisite: Rus. 101. Credit, 4 hours.

103 *Intermediate Russian*. Development of a sound reading knowledge of Russian. Systematic review of grammar. Oral and written composition. Prerequisite: Rus. 102. Credit, 4 hours.

104 *Intermediate Russian*. Continuation of Rus. 103 with greater emphasis upon rapid reading and oral expression. Outside reading in the student's field of interest. Prerequisite: Rus. 103. Credit, 4 hours.

## Spanish Language and Literature

Span. 101 *Elementary Spanish*. A study of pronunciation, vocabulary, the grammar essential for simple oral and written expression, and reading. Beginners only. Credit, 4 hours.

102 *Elementary Spanish*. Continuation of Span. 101, with emphasis on reading and conversation. Prerequisite: Span. 101. Credit, 4 hours.

103 *Intermediate Spanish*. A review of grammar and reading, stressing vocabulary-building and accuracy of expression. Prerequisite: Span. 102. Credit, 4 hours.

104 *Intermediate Spanish*. Continuation of Span. 103 with greater emphasis upon rapid reading and oral expression. Prerequisite: Span. 103. Credit, 4 hours.

120 *Spanish Conversation*. Conversation to develop fluency and accuracy. Material based on everyday Spanish life. Prerequisite: Span. 104. Credit, 2 hours.

121 *Spanish Conversation*. Continuation of Span. 120. Prerequisite: Span. 104. Credit, 2 hours.

203 *Advanced Spanish Composition*. Translating English prose into Spanish, and original composition. Grammar review through writing. Collateral reading of modern short stories, novels and plays. Conducted in Spanish. Prerequisite: Span. 104. Credit, 3 hours.

204 *Advanced Spanish Composition*. Continuation of 203. Prerequisite: Span. 203. Credit, 3 hours.

205 *Survey of Spanish Literature*. Characteristics of the Middle Ages, Renaissance and the Golden Age, the evolution of Spanish thought and literary ideals. Conducted in Spanish. Prerequisite: Span. 204. Credit, 3 hours.

206 *Survey of Spanish Literature.* Continuation of 205. Prerequisite: Span. 205. Credit, 3 hours.

207g *Spanish Literature of the Nineteenth Century.* A study of the Romantic dramatists of this century and the most representative novelists and poets of the second half of the century. Credit, 3 hours.

210g *Spanish Literature of the Twentieth Century.* A study of the creative achievements of the Generation of 1898 and significant tendencies in the works of contemporary writers. Credit, 3 hours.

224g *Spanish American Literature.* A survey of the significant literature and writers from the colonial period to the present. Credit, 3 hours.

227g *The Regional Novel.* The chief characteristics of the Spanish regional novel. Credit, 3 hours.

241g *Spanish American Civilization.* A study of the people, the growth of institutions and culture, and the aspirations of their great men. A knowledge of Spanish is not necessary. Credit, 2 hours.

310 *Seminar in Foreign Language Education.* Study of recent contributions in the area of foreign language instruction. Prerequisite: graduate standing in Spanish. Credit, 2 hours.

## Health, Physical Education, and Recreation

CLAYD SMITH (Director of Athletics and Physical Education),  
LAVIK (Head of Men), MURPHY (Head of Women), BRYANT,  
CAREY, CASTILLO, DEVINE, DICKINSON, FETTER, FLETCHER,  
KAJIKAWA, KISH, ONOFRIO, STEVERSON, THOMPSON  
GILLANDERS, GISOLO, KLANN, PITTMAN.

### Physical Education Courses for Men Only

P.E. 107 *Sports Survey Men.* Individual and team sports. Required of men in first semester of freshman year. Members of varsity teams may be excused from attendance but only during the actual playing season. Credit, ½ hour.

108 *Sports Survey Men.* Continuation of P.E. 107. Required of all men in second semester of freshman year. Members of varsity teams may be excused from attendance but only during the actual playing season. Credit, ½ hour.

113 *Athletics Men. Second year.* Participation in football, basketball and other first semester varsity sports. Five times a week. Credit, ½ hour.

114 *Athletics Men. Second year.* Participation in baseball, track and other second semester varsity sports. Five times a week. Credit, ½ hour.

- 115 *Sophomore Sports Men.* Continuation of Sports Survey, P.E. 108. Twice a week. Credit,  $\frac{1}{2}$  hour.
- 116 *Sophomore Sports Men.* Continuation of P.E. 115. Twice a week. Credit,  $\frac{1}{2}$  hour.
- 170 *Fundamentals of Scoutmaster Training.* This course involves actual practice in scoutcraft and camping activities. Emphasis is placed upon leadership techniques for boys and men, and the philosophy of scouting organization and practice. Credit, 2 hours.
- 195 *Professional Activities.* History, organization and techniques of physical activities and minor sports. Present day problems confronting teachers. Two semesters required of men specializing in physical education. Credit, 2 hours.
- 196 *Professional Activities.* Continuation of P.E. 195. Prerequisite: P.E. 195. Credit, 2 hours.
- 211 *Athletics—Men. Third year.* Participation in football, basketball and other first semester varsity sports. Five times a week. Credit,  $\frac{1}{2}$  hour.
- 212 *Athletics Men. Third year.* Participation in baseball, track, and other second semester varsity sports. Five times a week. Credit,  $\frac{1}{2}$  hour.
- 213 *Athletics—Men. Fourth year.* Participation in football, basketball and other first semester varsity sports. Five times a week. Credit,  $\frac{1}{2}$  hour.
- 214 *Athletics Men. Fourth year.* Participation in baseball, track and other second semester varsity sports. Five times a week. Credit,  $\frac{1}{2}$  hour.
- 217 *Coaching.* Theory and techniques of basketball, track and baseball. Lecture and laboratory, 3 times a week. Credit, 2 hours.
- 218 *Coaching.* Theory, techniques and officiating of football. Lecture and laboratory, 3 times a week. Credit, 2 hours.
- 219 *Officiating Football, Basketball, Baseball and Track.* A study of rules and the mechanics of officiating used in football, basketball, baseball and track. Credit, 3 hours.
- 256g *Techniques of Athletic Training.* Emphasizes the correct use of personal and field equipment, support procedures and therapeutic aids. Laboratory work includes practical techniques in the clinical use of supporting apparatus, physiotherapy. Prerequisites: Zool. 171, 172. Two lectures, 1 hour laboratory. Credit, 2 hours.
- 270 *Advanced Scouting.* Principles and practice in scout and cub organization and leadership. For staff officers and field executives. Prerequisites: Scoutmaster certificate and senior standing. One lecture, 2 laboratory hours. Credit, 2 hours.



### Physical Education—Courses for Women Only

P.E. 101 *Basic Physical Education*. Required of freshman women not specializing in physical education. Fee, \$2.00, per semester. Twice a week. Credit,  $\frac{1}{2}$  hour.

102 *Basic Physical Education*. Required of freshman women not specializing in physical education. Fee, \$2.00, per semester. Twice a week. Credit,  $\frac{1}{2}$  hour.

111, 112 *Team Sports*. Classes in volleyball, hockey, softball, basketball, soccer, speedball and track. Twice a week. Credit,  $\frac{1}{2}$  hour each.

113, 114 *Team Sports*. Intermediate classes in volleyball, hockey, softball, basketball, soccer, speedball and track. Prerequisite: P.E. 111, 112. Twice a week. Credit,  $\frac{1}{2}$  hour each.

165 *Team Sports*. Advanced classes in volleyball, hockey, softball, basketball, soccer, speedball and track. Twice a week. Credit,  $\frac{1}{2}$  hour each.

166 *Team Sports*. Continuation of P.E. 165. Credit,  $\frac{1}{2}$  hour.

171, 172, 173, 174 *Professional Activities*. The activities included are designated professional because of their value to women students specializing in physical education. Four hours required. Five times a week. Credit, 1 hour each.

205 *Theory and Practice of Teaching Physical Education in the Elementary Schools*. Analysis and study of programs and materials for the elementary school. Practice in and development of units. Credit, 2 hours.

224 *Theory and Practice of Teaching Sports*. Class organization, teaching and coaching of major team, individual, and dual sports. Prerequisites: P.E. 171, 172, 173, 174, or the equivalent. Three times a week. Credit, 3 hours.

### Physical Education—Courses for Both Men and Women

P.E. 103 *Beginning Tap Dance*. Twice a week. Credit,  $\frac{1}{2}$  hour.

104 *Advanced Tap Dance*. Twice a week. Credit,  $\frac{1}{2}$  hour.

105 *Beginning Square Dance*. Twice a week. Credit,  $\frac{1}{2}$  hour.

106 *Advanced Square Dance*. Twice a week.. Prerequisite: P.E. 105 or the equivalent. Credit,  $\frac{1}{2}$  hour.

109 *Introduction to Physical Education. Men*. For men who wish to major or minor in physical education. A cumulative index of 1.75 is required for admission to this course. No freshmen admitted. Credit, 3 hours. *Women*. An orientation and guidance course. Required of freshmen women specializing in physical education. Credit, 3 hours.

110 *Introduction to Community Recreation*. Orientation to the field of organized recreation in terms of its history, philosophy, and development; and the contribution of organized recreation to the school and community. Credit, 2 hours.

- 117 *Recreational Games*. Instruction and playing experience in table tennis, shuffleboard, bowling, paddle tennis, deck tennis, croquet. Twice a week. Credit,  $\frac{1}{2}$  hour.
- 119 *Beginning Folk Dance*. European, early American, and Latin American dances. Twice a week. Credit,  $\frac{1}{2}$  hour.
- 120 *Intermediate Folk Dance*. Twice a week. Credit,  $\frac{1}{2}$  hour.
- 121 *Beginning Golf*. Twice a week. Credit,  $\frac{1}{2}$  hour.
- 122 *Intermediate Golf*. Twice a week. Credit,  $\frac{1}{2}$  hour.
- 124 *Beginning Gymnastics*. Techniques of performing and teaching gymnastic skills. One section for tumbling and one for apparatus. Twice a week. Credit,  $\frac{1}{2}$  hour.
- 125 *Advanced Gymnastics*. Continuation of P.E. 124. Twice a week. Credit,  $\frac{1}{2}$  hour.
- 131 *Beginning Tennis*. Twice a week. Credit,  $\frac{1}{2}$  hour.
- 132 *Intermediate Tennis*. Twice a week. Credit,  $\frac{1}{2}$  hour.
- 133 *Advanced Tennis*. Twice a week. Credit,  $\frac{1}{2}$  hour.
- 134 *Beginning Badminton*. Twice a week. Credit,  $\frac{1}{2}$  hour.
- 135 *Intermediate Badminton*. Twice a week. Credit,  $\frac{1}{2}$  hour.
- 136 *Advanced Badminton*. Twice a week. Credit,  $\frac{1}{2}$  hour.
- 141 *Beginning Archery*. Fee, \$1.00. Twice a week. Credit,  $\frac{1}{2}$  hour.
- 142 *Intermediate Archery*. Fee, \$1.00. Twice a week. Credit,  $\frac{1}{2}$  hour.
- 143 *Advanced Archery*. Fee, \$1.00. Twice a week. Credit,  $\frac{1}{2}$  hour.
- 150 *Beginning Social Dance*. Twice a week. Credit,  $\frac{1}{2}$  hour.
- 151 *Intermediate Social Dance*. Twice a week. Credit,  $\frac{1}{2}$  hour.
- 160 *Beginning Fencing*. Twice a week. Credit,  $\frac{1}{2}$  hour.
- 161, 162, 163, 164 *Restricted Activities*. Limited activities for students who cannot, because of disabilities, enroll in regular physical education classes. Written recommendation of the school physician required. Twice a week. Credit,  $\frac{1}{2}$  hour.
- 167 *First Aid*. Prevention of accidents, methods of examination and temporary care for victims of accident or sudden illness. Red Cross certification. Credit, 2 hours.
- 181 *Beginning Modern Dance*. Twice a week. Credit,  $\frac{1}{2}$  hour.
- 182 *Intermediate Modern Dance*. Twice a week. Credit,  $\frac{1}{2}$  hour.
- 183 *Advanced Modern Dance*. Twice a week. Credit,  $\frac{1}{2}$  hour.
- 185 *Camping Activities and Skills*. An introductory course in camp counseling involving outdoor cookery, nature study, nature crafts, camp crafts, story telling, dramatics, songs and music, overnight trips, shelters, orienting, axmanship, firecraft, food preservation, and cooking devices. Fee, \$5.00. One hour discussion, 3 hours laboratory. Credit, 3 hours.
- 191 *Dance Composition*. Study and analysis of theme and dramatic ideas drawn from poetry, drama, music, and other art forms for use

in dance composition. Workshop experience in developing these dance compositions into dance programs for production. Prerequisite: P.E. 181. Three times a week. Credit, 2 hours.

192 *Dance Production*. Theory of, and experience in, the staging of dance programs, including lighting, costuming, scenery, and make up. Three times a week. Credit, 2 hours.

193 *History and Philosophy of Dance*. A study of dance from ancient times to the present. Consideration of dance as an art in relation to other arts; primitive, pre classic, and modern forms. Dance composition, rhythm analysis, and accompaniment for dance. Three times a week. Credit, 2 hours.

220 *Playground Leadership*. A course designed to present games of low organization, team sports, and rhythmic activities, as prescribed in the state course of study for the elementary grades. Required for elementary certificate. Separate sections for men and women. Credit, 2 hours.

222 *Youth Organizations*. Orientation in principles, practices, and leadership experience of natural youth serving organizations. Credit, 3 hours.

228 *Public School Camping and Program Planning*. Designed to equip the student with materials, procedures, and plans for a school camp program, and to establish the relationship of camping to other areas of education. Fee, \$3.00. Credit, 3 hours.

229g *Camp Organization and Administration*. The organization and administration of camps with special emphasis on school camps; preparation for camp management; consideration of budget, equipment, camp site, personnel, and community interpretation. Fee, \$3.00. Credit, 3 hours.

231 *Social Recreation*. The development of methods and materials for leadership in social recreational activities for school, church, home, club, and other social groups. Credit, 2 hours.

233 *Program Planning and Recreational Leadership*. Study of principles and practices involved in planning and carrying out programs of recreation for playgrounds, community centers and youth serving organizations. Acquisition of methods, materials and leadership skills and techniques through laboratory practice. Credit, 3 hours.

234 *Theory and Practice of Teaching Dance*. Theory of and practice in the teaching of folk, square, social, and tap dance. Study, analysis, and acquisition of materials suitable for elementary, secondary, college, and recreational use. Credit, 2 hours.

235 *Theory and Practice of Teaching Dance*. Theory of and practice in the teaching of fundamental rhythms and modern dance. Study, analysis, and acquisition of materials suitable for elementary, secondary, college, and recreational use. Credit, 2 hours.

236 *Organization and Administration of Physical Education*. Organization, administration, and supervision of the physical education

program in elementary and high schools. Separate sections for men and women. Credit, 3 hours.

237 *Organization and Administration of Recreation.* The study and analysis of the administrative structure and organizational policies and practices on the local, state, and national level. Analysis of methods of operation, finance, personnel standards and problems, legal aspects and study of modern trends in terms of present and projected future community needs. Credit, 3 hours.

245g *Tests and Measurements in Health and Physical Education.* Types of tests and uses, including classification and grading of students. Practice in administering tests. Prerequisite: Psych. 200. Credit, 3 hours.

251 *Applied Anatomy and Kinesiology.* Analytic and synthetic studies of body movements with emphases on neuromuscular skills and body mechanics. Prerequisite: Zool. 171. Credit, 3 hours.

253 *Techniques of Officiating.* Qualification of officials, techniques of officiating, interpretation of rules and opportunity to qualify as an NSGWS rated official in tennis, volleyball, basketball, softball. Credit, 3 hours.

254 *Physiology of Exercise.* The effects of exercise upon bodily functions. Prerequisite: Zool. 172. Credit, 3 hours.

255g *Corrective Physical Education.* The organization and administration of the preventive and corrective aspects of the body mechanics program. Discussions of corrective exercises and other aspects of body mechanics. Laboratory observations will be provided at the Children's Hospital. Prerequisite: P.E. 251. Credit, 3 hours.

257g *Organization and Administration of Intramural Activities.* Deals with materials and methods for the organization and administration of an intramural program on the elementary and secondary level. Credit, 2 hours.

267 *First Aid Instructorship.* For individuals who wish to receive certification as Red Cross First Aid Instructors. Prerequisite: must be 20 years of age and hold current advanced certificate. Credit, 1 hour.

271, 272, 273, 274 *Physical Activities.* Participation in individual and dual sports; major team sports and dance. Prerequisite: recommendation of instructor. Credit, ½ hour each.

281g *Dance Composition.* Theory and practice in dance composition. Form in music related to dance composition. Study of archaic, pre-classic, and modern style. Prerequisite: P.E. 191, or recommendation of instructor. Credit, 2 hours.

282g *Percussion and Improvisation.* Theory and practice in use of percussion instruments. Improvisation of simple dance studies. Compositions of percussion accompaniment for modern dance studies. Prerequisite: P.E. 191, or recommendation of instructor. Credit, 2 hours.

300 *Seminar in Health, Physical Education and Recreation.* Practices and procedures in the various areas of health, physical education and recreation. Credit, 3 hours.

301 *Seminar in Health, Physical Education and Recreation.* Continuation of P.E. 300. Either semester's work may precede the other. Credit, 3 hours.

330 *Research Procedure and Critical Analysis of Professional Literature.* A study of the methods and techniques of research in health and physical education and a critical analysis and evaluation of the professional literature. Credit, 3 hours.

336 *Problems in Physical Education.* Consideration of problems and controversial issues in physical education with particular stress on methods of approach toward solution of such problems. Credit, 2 hours.

340 *Curriculum Construction in Health Education and Physical Education.* Principles, practices and a functional philosophy of curriculum making with application of this theory. Prerequisites: Major in P.E., or minor in Health Education or teaching experience. Credit, 2 hours.

## Health Education

H.E. 100 *Hygiene.* Required of all students. Separate sections for men and women. Credit, 2 hours.

237 *Organization and Administration of Health Education.* The areas of health service, health instruction, and physical education are shown in their relationships to each other and to the general educational scheme in schools and communities of different sizes. Required of minors in health education. Prerequisites: H.E. 242, 243. Credit, 3 hours.

241g *School Health Problems.* An advanced and intensive study of the school health program. Designed to help teachers develop skills in screening techniques, analysis of individual pupil health needs, and use of community resources. Prerequisite: H.E. 242. Credit, 2 hours.

242 *School-Community Health.* This course includes the three main divisions of the school health program—Health Services, Health Instruction, Healthful School Living—and the role and duties of the classroom teacher in relationship to each of these divisions, so far as the health of the school child is concerned. Practical experiences in screening tests and techniques, survey of available free materials, discussion of available health texts and health readers, and previewing of usable films in each of the broad areas of health education. Credit, 3 hours.

243 *Directing Health Education in Schools.* Methods and materials of health instruction in schools. Prerequisite: P.E. 242. Credit, 3 hours.

244g *Principles and Practices of Public Health.* Survey of the field of public health and the principles involved in the development of such a program for the community. Field practice with organization in the immediate community. This course is one of the requisites

for a fellowship that may be offered to students having interest and ability in this particular type of work. Prerequisite: H.E. 242 or recommendation of instructor. Credit, 3 hours.

245g *School-Community Health Council.* Steps involved in the organization of a School-Community Health Council. The use of this organization as an approach to the solution of existing health problems. Prerequisite: H.E. 242 or teaching experience. Credit, 3 hours.

301 *Problems in Health Education.* Consideration of problems and controversial issues in health education with particular stress on methods of approach toward solution of such problems. Credit, 2 hours.

## Home Economics

RANNELLS (Head of Department), ELLSWORTH, ESSIG, KAGY, NORTON.

### Home Economics

H.Ec. 100 *Orientation to Home Economics.* A preview of the home economics field, including opportunities for employment. First year, first semester. Credit, 1 hour.

101 *Elementary Nutrition.* Principles of nutrition, diet, food in its relation to health. Open to men and women. Credit, 2 hours.

102 *Clothing Selection.* The selection of clothing with consideration of materials, cost, style, design, the individual, and the occasion. Credit, 2 hours.

103 *Introduction to Family Living.* For students not specializing in home economics. Deals with the establishment of a home, children, finances, foods, selection of clothing, and art in the home. Open to men and women. Fee, \$1.00. Credit, 3 hours.

104 *Home Nursing.* Information on health for the family, care of the sick, the mother through pregnancy and childbirth, and infant care. Credit, 1 hour.

105 *Applied Food Principles.* Principles of cookery and nutritive facts involved. Open only to those specializing in the department. Fee, \$5.00. Six hours a week. Credit, 3 hours.

106 *Food Preparation and Meal Service.* Fundamental processes in food preparation, meal planning, and table service. Open to both men and women not specializing in home economics and to students specializing in clothing, textiles and related art. Fee, \$5.00. Six hours a week. Credit, 3 hours.

107 *Clothing Construction.* Selection and construction of garments based on the needs of the individual with emphasis on becomingness in line and color. The use and alteration of commercial patterns to fit various figures. Open to non-majors and home economics majors not specializing in teaching. Six hours a week. Credit, 3 hours.

108 *Clothing Construction.* Selection and construction of garments with personal analysis as the basis. Emphasis on sewing techniques.

Open only to those specializing in teaching of home economics. Six hours a week. Credit, 3 hours.

202 *Problems of the Consumer.* Problems, wants, needs, and practices of the consumer-buyer of foods, textiles, clothing, and home equipment. Influence of advertising, retail stores, and government agencies. Credit, 2 hours.

203 *Child Development.* Physical, emotional, social, and intellectual development of children from birth to five years. Observation in the nursery school. Open to men and women. Prerequisite: Psych. 100. One hour observation and 3 hours discussion a week. Credit, 3 hours.

205 *Large Quantity Cookery.* Theory and practice in preparing food for large groups. Laboratory work in the college dining hall. Prerequisite: H.Ec. 105. Fee, \$2.00. Six hours laboratory and one hour discussion a week. Credit, 3 hours.

2 6 *Food for the Family.* The production, economic selection, and nutritive value of foods, types of meals, and table service. Practice in planning, preparing and serving meals. Open only to those specializing in the department. Prerequisites: H.Ec. 101, 105. Fee, \$5.00. Six hours a week. Credit, 3 hours.

207g *Nursery School Education.* Discussion and application of methods for guiding the young child in family and school relationships. Curriculum planning toward meeting fundamental needs of pre school children. Opportunity for practical experience with children in the Nursery School. Prerequisite: H.Ec. 203 or Psych. 140, 141, or 234. Fee, \$1.00. Two hours discussion a week, and 4 hours laboratory. Credit, 3 hours.

209 *Family Relationships.* Understanding of family life and current problems including preparation for marriage. Open to men and women. Credit, 3 hours.

210 *Household Equipment.* A study of the selection, construction, use, care, and repair of all types of household equipment. Fee, 50 cents. Credit, 3 hours.

211 *Clothing: Tailoring.* Construction of coat or suit; tailoring techniques, alteration of patterns, and fitting emphasized. Prerequisites: H.Ec. 102, 108. Six hours a week. Credit, 3 hours.

212g *Advanced Nutrition.* Special problems in diet and nutrition. Prerequisites: H.Ec. 101; Chem. 110. Fee, \$1.00. Credit, 3 hours.

213g *Clothing: Pattern Designing.* Fundamental principles in designing, cutting, and fitting individualized garments. Flat patterns used. Prerequisites: H.Ec. 102, 107 or 108. Fee, \$2.00. Six hours a week. Credit, 3 hours.

214 *Home Management House.* Students live in Home Management House for a six week period, and carry on all duties involved in home-making. Open to seniors in home economics. Prerequisites: H.Ec. 104, 203, 206, 217. Board and room at regular college rate. Credit, 3 hours.

215 *Home Furnishing.* Housing; selection, combination, and arrangement of furniture; color schemes; choice of wall finishes, floor coverings, draperies, and accessories. Fee, 50 cents. Credit, 3 hours.

217 *Home Management.* A study of the management of various resources available to the family with a view to promoting family well being and satisfaction. Goals, standards of living, use of time, money and energy considered. Credit, 3 hours.

218g *Clothing: Draping and Dress Design.* Working with fabric on a dress form expressing original ideas in dress design; emphasis upon the understanding of the principles involved in fitting and pattern construction. Prerequisites: H.Ec. 102, 107 or 108. Fee, \$3.00. Six hours a week. Credit, 3 hours.

219 *Textiles.* Textile fibers, their construction, finish, sources, characteristics, identification, and uses. Fee, 50 cents. Credit, 2 hours.

225g *Experimental Cookery.* Application of experimental methods to preparation of common foods. Prerequisites: H.Ec. 105 and some chemistry. Fee, \$5.00. Six hours a week. Credit, 3 hours.

226g *The Teaching of Art Related to the Home.* The application of principles of art to problems of daily living. Use made of pertinent illustrative material. Opportunity provided to participate in teaching projects. Fee, 50 cents. Credit, 2 hours.

## Library Science

BACHELOR (Head of Department), MOFFIT.

### Library Science

L.S. 201 *Libraries and Society.* A history of libraries, library agencies and services, with particular emphasis on the school library in the modern world and librarianship as a profession. Credit, 3 hours.

202 *Books and Publishing.* A survey of the materials and methods of writing and of publishers and publishing from early times to the present. Credit, 3 hours.

203 *Book Organization.* The principles and practices of the Dewey Decimal classification, cataloging techniques, subject headings, alphabetizing and filing. Knowledge of touch typewriting recommended. Nine hours laboratory. Credit, 3 hours.

204 *Book Services.* Principles and practices of the loan, reference and reading guidance services suitable for the public and school library. Credit, 3 hours.

205 *Library Book Selection.* Techniques and problems of selecting books for the school and public library. Attention given guides and aids, reading interests, publishers, dealers, etc. Credit, 3 hours.

206 *School Library Administration.* Organization and administration of the school library, its backgrounds, activities, functions, personnel, materials and equipment. Credit, 3 hours.



210 *The Library in the Modern School.* Acquaints the prospective or in-service teacher with the school library collection and its services, characteristics of appropriate books, sources of teaching materials, reading interests of boys and girls, and ways of using the school library in classroom instruction. Provision is made for specialization in elementary, junior, and senior high school fields. Credit, 3 hours.

215g *Library Science Workshop.* An intensive study of selected school library problems, directed by the regular staff, and/or visiting specialists. Recommended for in-service school librarians. Prerequisites: L.S. 203, 204, 205, 206, or a minor in Library Science. Credit, 3 or 6 hours.

223g *Advanced Book Organization.* Emphasis on problems in acquisition, recording and organizing of library materials in high school and community libraries. Prerequisite: L.S. 203. Two lectures, 4 hours laboratory. Credit, 2 hours.

224g *Advanced Reference Service.* Emphasis on special high school and adult reference materials and techniques, bibliography, and government publications for curricular and extra-curricular enrichment. Prerequisite: L.S. 204. Credit, 2 hours.

225g *Reading and Communication.* Modern communication and its social and psychological effects through various media, considered in relation to the school library collections and services for youth. Prerequisite: L.S. 205. Credit, 2 hours.

226g *Current Library Problems.* Reading in professional library literature on unsolved problems and current issues of librarianship as related particularly to the school library. Prerequisite: L.S. 206. Credit, 2 hours.

251g *Library Materials for Children.* Introduction to the use of books and related materials available for children. Develops ability to select and integrate vital books and materials into the school curriculum and a free-reading library program. Prerequisite: L.S. minor or instructor's approval. Credit, 3 hours.

252g *Library Materials for Adolescents.* Introduction to the use of books and related materials in youth libraries and in the secondary school program. Develops ability to select and integrate vital books and materials into the school curriculum and a free-reading library program. Prerequisite: L.S. minor or instructor's approval. Credit, 3 hours.

## Mathematics

WEXLER (Head of Department), LYON, OLENE ZACHER\*.

### Mathematics

Math. 105. *Basic Mathematics.* A survey of some of the fundamental concepts and simple applications of mathematics. Designed for students who do not intend to take more than one course in mathematics. Does not presuppose high school algebra or geometry. Each semester. Credit, 3 hours.

\*Special Faculty

106 *Intermediate Algebra*. Review of fundamental operations: factoring; exponents and radicals; solution of equations; logarithms. Intended for students with (a) only 1 to 1½ years of high school algebra; (b) more than this amount taken some years back. Credit, 3 hours.

107 *College Algebra*. Intensive review. Study of progressions, permutations and combinations, probability, determinants, theory of equations as time permits. Credit, 3 hours.

118 *Trigonometry*. Identities and equations, logarithms, solution of triangles. Credit, 3 hours.

119 *Algebra and Trigonometry*. Subject matter equivalent to both Math. 107, 118 in one semester. Capable students should take this course in place of Math. 106, 107, 118, if they intend to go on in mathematics. Credit, 4 hours.

120 *Analytic Geometry*. Coordinate systems, conic sections, general methods. Courses 119, 120 should be taken in the freshman year; otherwise, elementary calculus is delayed until the junior year. Prerequisite: Math. 118 or 119. Credit, 4 hours.

122 *Calculus*. Differential and integral calculus, and more analytic geometry. Applications to physics. Prerequisite: Math. 120. Credit, 4 hours.

123 *Calculus*. Continuation, Math. 122. Prerequisite: Math. 122. Credit, 4 hours.

170 *Analytical Mechanics—Statics*. Study of vectors; forces in equilibrium. Prerequisites: Math. 107, 118 or equivalent. Credit, 3 hours.

171 *Analytical Mechanics-Dynamics*. Study of the motion of bodies acted upon by forces. Prerequisite: Math. 170. Credit, 3 hours.

205 *Arithmetic in the Elementary School*. Proficiency in arithmetic; study of teaching methods. Credit, 3 hours.

219 *Probability*. Algebra of choice, elementary theorems of probability, compound probabilities, probability distribution functions, expected values, law of large numbers. Prerequisite: Math. 123. Credit, 3 hours.

221 *Advanced Calculus*. Multiple integrals, partial differentiation and applications; line integrals; other topics as time allows. Prerequisite: Math 123. Credit, 4 hours.

222g *Advanced Calculus*. Continuation, Math. 221. Improper definite integrals; differential equations; complex variables; other topics as time allows. Prerequisite: Math 221. Credit, 4 hours.

223g *Symbolic Logic*. Main features of a logic adequate to modern mathematics and science. The basis in language. Notions which play a part in all systematic thinking. Prerequisite: Math., 8 hours, or Phil. 200, or Eng. 252. Credit, 3 hours.

226g *Statistics*. An introduction to the mathematical theory of statistics. Prerequisite: Math. 123. Credit, 3 hours.

241g *Theory of Functions*. Concepts of limits, continuity, derivatives, epsilon proofs. Introduction to the theory of functions of a complex variable. Prerequisite: Math. 222. Credit, 3 hours.

242g *Theory of Functions*. Continuation, Math. 241g. Prerequisite: Math. 241. Credit, 3 hours.

243g *Analytical Mechanics*. Vectors, forces in equilibrium, dynamics. Prerequisite: Math. 123. Credit, 3 hours.

244g *Analytical Mechanics*. Continuation, Math. 243g. Prerequisite: Math. 243. Credit, 3 hours.

246g *Mathematics for the Secondary School Teacher*. Choice of topics from higher algebra, trigonometry, and geometry. Prerequisite: Ed. 228. Credit, 3 hours.

255g *Theory of Numbers*. The properties of whole numbers. Prerequisite: Math. 107 or 119. Credit, 3 hours.

256g *Projective Geometry*. Analytic study of the projective properties of figures. Prerequisite: Math. 120. Credit, 3 hours.

257g *Introduction to Modern Algebra*. Study of the concepts of Modern Algebra, such as rings, fields, ideals, isomorphism, etc. Credit, 3 hours.

258g *Differential Geometry*. Curves and surfaces and their properties. Prerequisite: Math. 221. Credit, 3 hours.

310 *Seminar in Mathematics Education*. Curriculum studies in secondary school mathematics; topics and methods of instruction in "general mathematics," analytical geometry and calculus. Seven and one-half hours of laboratory. Credit, 3 hours.

## Military Science and Tactics

LANGHAM (Head of Department), BERGERON, HITCHCOCK,  
KLOPPMANN, THOMSEN.

### Military Science

MS. 101 *Basic Military Science (First Year)*. Organization of the Army, individual weapons and marksmanship, and school of the soldier. Two lectures, 2 drills per week. Credit, 1.5 hours.

102 *Basic Military Science (First Year)*. American military history and school of the soldier. Two lectures, 2 drills per week. Credit, 1.5 hours.

103 *Basic Military Science (Second Year)*. Map reading and school of the soldier. Prerequisites: M.S. 101 and M.S. 102. Two lectures, 2 drills per week. Credit, 1.5 hours.

104 *Basic Military Science (Second Year)*. Crew-served weapons and gunnery, and school of the soldier. Prerequisites: M.S. 101 and M.S. 102. Two lectures, 2 drills per week. Credit, 1.5 hours.

201. *Advanced Military Science*. Leadership; military teaching methods; organization, function, and mission of the arms and services; and exercise of command. Prerequisite: Two-year basic course or equivalent. Four lectures, 2 drills per week. Credit, 3 hours.

202 *Advanced Military Science*. Small unit tactics and communications, and exercise of command. Prerequisite: Two-year basic course or equivalent. Four lectures, 2 drills per week. Credit, 3 hours.

203 *Advanced Military Science*. Operations, training management, and exercise of command. Prerequisites: M.S. 201 and M.S. 202. Four lectures, 2 drills per week. Credit, 3 hours.

204 *Advanced Military Science*. Logistics, military administration and personnel management. service orientation, and exercise of command. Prerequisites: M.S. 201 and M.S. 202. Four lectures, 2 drills per week. Credit, 3 hours.

## Music

AUTENREITH, BARKLEY, BOWERS, BULLOCK, MILES DRESSKELL, NADINE DRESSKELL, HARELSON, HINES, HODGE, KEATING, QU Aid, RICKEL, RIDER, SCOLAR, SIMMONS, MARION SMITH.

### Music

Mus 101, 102, 103, 104 *Major Band Instruments—Private Instruction*. Prerequisites: courses taken in order listed. One or 2 lessons a week. Credit, 1 or 2 hours each.

101, 102, 103, 104 *Minor Band Instruments Private Instruction*. Prerequisites: courses taken in order listed. One or 2 lessons a week. Credit, 1 or 2 hours each.

101, 102, 103, 104 *Piano Private Instruction*. Courses arranged to meet the needs of students. Public performance provided through afternoon recitals. Prerequisites: courses taken in order listed. One or 2 lessons a week. Credit, 1 or 2 hours each.

101, 102, 103, 104 *Organ Private Instruction*. Courses arranged to meet the needs of the students. Prerequisite: Piano 104 or equivalent. One or 2 lessons a week. Credit, 1 or 2 hours.

101, 102, 103, 104 *Violin Private Instruction*. Work arranged to fit the needs of students. Prerequisites: courses taken in order listed. One or 2 lessons a week. Credit, 1 or 2 hours.

101, 102, 103, 104 *Violoncello Private Instruction*. Study of cello technique and of works of classical and modern composers to fit individual needs. Opportunity for public performance and for orchestra and ensemble playing. Prerequisites: courses taken in order listed. One or 2 lessons a week. Credit, 1 or 2 hours each.

101, 102, 103, 104 *Voice — Private Instruction.* Development in technique of voice production in singing. Prerequisites: courses taken in order listed. One or 2 lessons a week. Credit, 1 or 2 hours each.

110 *Music in Living.* Acquaintance with the documented musical heritage of the world. Listening, discussion, and evaluation to enrich and broaden cultural horizons. Credit, 2 hours.

111 *Fundamentals of Music.* Elements of music with emphasis on notation, rhythm, major and minor scales, sight singing, and melodic writing. Credit, 2 hours.

112 *Sight Singing and Ear Training.* Music reading with attention to aural recognition and writing. Prerequisite: Mus. 111. Credit, 2 hours.

113 *Sight Singing.* Study of advanced materials in sight singing and ear training. Prerequisite: Mus. 112. Credit, 2 hours.

115 *Harmony I.* Four part harmonic writing, root position and inversions. Prerequisite: Mus. 112. Credit, 2 hours.

116 *Harmony II.* Melody writing and simple composition. Prerequisite: Mus. 115. Credit, 2 hours.

117 *Music Appreciation.* To develop judgment and discrimination in listening to music. Phonographic recordings used. Open to music majors only, except by special permission of the instructor. Credit, 2 hours.

118 *Music Appreciation.* Continuation of Mus. 117. Prerequisite: Mus. 117. Open to music majors only, except by special permission of the instructor. Credit, 2 hours.

119 *Keyboard Harmony.* Melodic, harmonic, and rhythmic elements of music. Includes scales, intervals, triads, cadences, notation and dictation. Prerequisites: Mus. 101, 102 (piano), 111, 112. Credit, 2 hours.

120 *Keyboard Harmony.* Seventh chords, key relationships, modulation, and dictation. Prerequisite: Mus. 119. Credit, 2 hours.

121 *Class Piano.* For kindergarten-primary majors. Elements of keyboard technique and sight-reading of folk song material. Two lessons a week. Credit, 1 hour.

122 *Class Piano.* Sight reading, improvisation, and kindergarten primary rhythms. Prerequisite, Mus. 121. Two lessons a week. Credit, 1 hour.

123 *Class Piano.* Keyboard experimentation. Melody writing, improvisation, and chord accompaniments. Prerequisite: Mus. 121 or 122, or keyboard experience. Credit, 1 hour.

124 *Class Piano.* Songs, rhythms, and techniques necessary to fluency in performance. Prerequisite: Mus. 123. Credit, 1 hour.

125 *Music Fundamentals for Kindergarten and Elementary Teachers.* The first of three classes planned for students following the kinder-

garten primary or the elementary curriculum. These three courses, Mus. 125, 126, and 227 or 229, should prepare students to teach music in their classrooms. Previous musical training not required. Credit, 2 hours.

126 *Music Fundamentals for Kindergarten and Elementary Teachers.* Continuation of Mus. 125. Prerequisite: Mus. 125. Credit, 2 hours.

127 *Class Voice.* The systematic development of the principles of good singing. Twice a week. Credit, 1 hour.

130 *Introduction to Music.* The correlation of music with literature, science and art. Not required of those specializing in music. Credit, 2 hours.

131, 132, 133, 134 *Vocal Ensemble.* Includes madrigal group, quartets and trios. Prerequisites: courses taken in order listed. Twice a week. Credit, 1 hour each.

137 *Class Instrumental Instruction.* Strings, brass, reed and percussion instruments. Instrumental rental \$2.50 a semester. Five days a week. Credit, 1 hour.

138 *Class Instrumental Instruction.* Continuation of Mus. 137. Prerequisite: Mus. 137. Credit, 1 hour.

141, 142, 143, 144 *Instrumental Ensemble.* String, brass and woodwind, and piano ensembles. Prerequisite: courses taken in order listed. Twice a week. Credit, 1 hour each.

151, 152, 153, 154 *Choral Union.* Open to students with reasonable vocal ability. Superior singers selected from the Choral Union form the Concert Choir. Prerequisite: courses taken in order listed. Five days a week. Credit, 1 hour each.

161, 162, 163, 164 *Orchestra.* Study and performance of symphonic literature. Membership selective. Prerequisite: courses taken in order listed. Twice a week. Credit, 1 hour each.

171, 172, 173, 174 *Symphonic and Marching Band.* Staging of formations and drills for football games and other events. Emphasis on symphonic works written for bands. Membership selective. Prerequisites: courses taken in order listed. Three times a week. Credit, 1 hour each.

201, 202, 203, 204 *Major Band Instruments Private Instruction.* Participation in public recitals required. Prerequisites: Mus. 104, and 201-204 in order listed. Two lessons a week. Credit, 2 hours each.

201, 202, 203, 204 *Piano Private Instruction.* Participation in formal public recitals required. Prerequisites: Mus. 104, and 201-204 taken in order. One or 2 lessons a week. Credit, 1 or 2 hours each.

201, 202, 203, 204 *Organ Private Instruction.* Participation in formal public recitals required. Prerequisites: Mus. 104 and 201-204 in order listed. One or 2 lessons a week. Credit, 1 or 2 hours.

201, 202, 203, 204 *Violin Private Instruction*. Participation in formal public recitals required. Prerequisites: Mus. 104, and 201-204 taken in order. One or 2 lessons a week. Credit, 1 or 2 hours each.

201, 202, 203, 204 *Violoncello Private Instruction*. Participation in formal public recitals required. Prerequisites: Mus. 104, and 201-204 taken in order listed. One or 2 lessons a week. Credit, 1 or 2 hours each.

201, 202, 203, 204 *Voice Private Instruction*. Participation in formal public recitals required. Prerequisites: Mus. 104, and 201-204 taken in order. One or 2 lessons a week. Credit, 1 or 2 hours each.

215 *Harmony III*. Altered chords, modulation, form, and creative writing. Prerequisites: Mus. 115, 116. Credit, 2 hours.

216g *Modern Harmony*. The structure, analysis, and composition of the contemporary tonal systems including tone rows, polytonality, pandiatonicism, quartal harmony, and synthetic scales. Prerequisite: Mus. 215. Credit, 2 hours.

217 *Choral Conducting*. Elements of choral technique and interpretation. Required of vocal majors. Three times a week. Credit, 2 hours.

219 *Instrumental Conducting*. Fundamentals of baton technique, score reading, and interpretation. Credit, 2 hours.

225 *History of Music*. Survey of music from Grecian sources to the twentieth century. Prerequisite: Mus. 117, 118. Open to music majors only, except by special permission of the instructor. Credit, 2 hours.

226g *History of Music*. Continuation of Mus. 225. Prerequisite: Mus. 225. Open to music majors only, except by special permission of the instructor. Credit, 2 hours.

227 *Music in the Kindergarten and Primary Grades*. Materials and teaching methods for music in the kindergarten and first three grades. Prerequisites: Mus. 125 and 126 or their equivalent. Credit, 2 hours.

229 *Music in the Elementary School*. Materials and teaching methods for music in the first six grades. Prerequisites: Mus. 125 and 126 or their equivalent. Credit, 2 hours.

231, 232, 233, 234 *Vocal Ensemble*. Continuation of Mus. 131-134. Prerequisites: Mus. 134, and 231-234, taken in order. Twice a week. Credit, 1 hour each.

235 *Music Education*. For music majors. Surveys the entire field of music education on the national, state, and local scale. Includes philosophy, curriculum, materials, and teaching methods. Credit, 3 hours.

241, 242, 243, 244 *Instrumental Ensemble*. Continuation of Mus. 141-144. Prerequisites: Mus. 144, and 241-244 taken in order. Twice a week. Credit, 1 hour each.

245g *Band and Orchestra Methods*. Survey of wind, string, and percussion methods and materials used in the development of junior and senior high school bands and orchestras. Credit, 2 hours.

246 *Vocal Repertoire*. A study of song material for all voices including works from the classical periods, the German lied and the French Art Song, opera and oratorio airs, and songs by contemporary composers. The course will include discussions by members of the voice faculty, and selected examples will be performed by members of the class. Prerequisite: Mus. 104. Credit, 2 hours.

251, 252, 253, 254 *Concert Choir*. Continuation of Mus. 151-154. Public appearances include church, school, radio, and an annual spring tour. Five days a week. Credit, 1 hour each.

255g *Organization and Administration of High School Bands and Orchestras*. Organization problems, procedures and materials. Credit, 2 hours.

261, 262, 263, 264. *Orchestra*. Continuation of Mus. 161-164. Prerequisites: Mus. 164, and 261-264 taken in order. Twice a week. Credit, 1 hour each.

271, 272, 273, 274 *Symphonic Band*. Continuation of Mus. 171-174. Prerequisites: Mus. 174, and 271-274 taken in order. Three times a week. Credit, 1 hour each.

284g *Counterpoint*. Strict counterpoint in all species in two, three, and four or more parts. Creative writing on original *canti-fermi*. Prerequisite: Mus. 215. Credit, 2 hours.

285g *Counterpoint*. A continuation of Mus. 284g. Combined forms; double and triple with free parts. Original compositions in the style for organ or piano. Trios for piano and strings, woodwinds, or string quartet. Prerequisite: Mus. 284. Credit, 2 hours.

287g *Choral Procedures and Techniques*. An analysis of choral-vocal problems chiefly at the secondary school level and a study of materials for the small choral ensembles and the large chorus. Prerequisite: Mus. 217 and senior standing in music. Credit, 2 hours.

288g *Composition*. Creative writing in the smaller forms including harmonic textures and use of contrapuntal devices. Prerequisites: Mus. 215, 284. Credit, 2 hours.

289g *Composition*. A continuation of Mus. 288g. Concentrated creative writing for voice and instrumental works. To include solo and ensemble compositions. Prerequisite: Mus. 228. Credit, 2 hours.

290g *Instrumentation*. The theoretical and practical study of orchestra and band instruments. Combining instruments for tonal effects, balance, color, etc. Scoring of suitable material for orchestra and band. Prerequisite: Mus. 215. Credit, 2 hours.

291g *Instrumentation*. A continuation of Mus. 290g. Advanced study and practice of scoring for symphony orchestra and concert band. Scores to be played by college orchestra and band. Class criticism of scores. Prerequisite: Mus. 290. Credit, 2 hours.

292g *Form and Analysis*. Harmonic and structural analysis of musical forms. The study of simpler forms to and including the Sonata Allegro form. Prerequisite: Mus. 215. Credit, 2 hours.



293g *Form and Analysis*. A continuation of Mus. 292g. Includes the larger forms, such as symphonic and tone poems with free adaptations and combinations of all forms. Prerequisite: Mus. 292. Credit, 2 hours.

294g *Advanced Composition*. Continued creative writing in the larger forms for chorus, orchestra, and band. Prerequisite: Mus. 289. Credit, 2 hours.

295g *Advanced Composition*. A continuation of Mus. 294g. Concentrated writing in the larger forms, vocal and instrumental, making use of modern harmonic devices. Prerequisite: Mus. 294. Credit, 2 hours.

303 *Modern Music*. An approach, through recorded music and discussion, to the works of composers of the twentieth century, beginning with Debussy, Strauss and Stravinsky, on through Schonberg and the French Six to the post World War I years of atonalism. Italian moderns, Ravel and French music of the periods between wars, American Music from Daniel Gregory Mason to Leonard Bernstein, modern Russian works, post War II French music, and the music of modern Mexico and South America. Prerequisite: Mus. 226g. Credit, 2 hours.

310 *Seminar in Music Education*. Discussion of specific teaching problems: assigned readings and reports. Study and performance of new materials in the field. Five lectures and 10 hours laboratory. Credit, 2 hours.

319 *Advanced Conducting*. The study and practice of advanced baton technique for band and orchestra. Score reading, mechanics of conducting, individual criticisms of style. Prerequisite: major in Music or Music Education. Credit, 2 hours.

321, 322, 323, 324 *Applied Music Private Instruction*. For the student who has had the equivalent of four years training in his major performing field, voice or instruments. Prerequisite: Mus. 204 or equivalent. One or 2 lessons a week. Credit, 1 or 2 hours.

## Physical Sciences

BATEMAN (Head of Department), DUANE BROWN, BURGoyNE, FUCHS, MILLER, MORTENSEN, RAWLS, RENNER, WAGER, YALE.

### Physical Science

Phys. Sci. 100 *Physical Universe*. The universe as a unit; the stars; the solar system; the earth and the atom. The nature of energy and matter and relations between atoms, elements and compounds. Designed for general education. Does not meet science requirement in preprofessional curriculums. Fee, \$2.00. Credit, 4 hours.

200 *History of the Physical Sciences*. A study of the growth of astronomy, chemistry, and physics; and of the scientists who have made outstanding contributions, and of the effect of these contributions on man's life. Credit, 3 hours.

350 *Recent Advances in Physics and Chemistry*. A descriptive presentation of the latest developments in physics and chemistry. De-

signed primarily as a refresher course for secondary school teachers in the physical sciences. Prerequisite: Consent of instructor. Credit, 3 hours.

### General Science

G.S. 231 *Science for the Elementary School*. Development of an integrated science program in each grade of the elementary school. Lectures, library reports, class discussion, field observation and a three-day camping trip. Prerequisite: Biol. 100; Phys. Sci. 100. Fee, \$3.00. Credit, 3 hours.

310 *Seminar in Science Education*. Review and survey of current publications. Consideration and solution of problems dealing with the field. Credit, 2 hours.

### Chemistry

Chem. 110\* *Elementary Chemistry*. The principles of general chemistry. Primarily for students in agriculture, home economics, nursing, biology, physical education, etc. After completing this course, students may take Chem. 180; or, with permission of instructor, Chem. 112. Fee, \$4.00. Three lectures, 3 hours laboratory. Credit, 4 hours.

111\* *General Chemistry*. Fundamental principles of chemistry. Prerequisite: high school algebra or algebra concurrently. Fee, \$4.00. Three lectures, 3 hours laboratory. Credit, 4 hours.

112 *General Chemistry and Qualitative Analysis*. Continuation of Chem. 111. Qualitative separation and identification of common cations and anions. Prerequisite: Chem. 111 or equivalent. Fee, \$5.00. Three lectures, 2 recitations, 4 hours laboratory. Credit, 5 hours.

131 *Qualitative Analysis*. Principles and methods of separation of the common cations and anions. Prerequisite: Chem. 112. Fee, \$5.00. Two lectures, 6 hours laboratory. Credit, 4 hours.

141 *Quantitative Analysis*. Fundamental principles of volumetric and gravimetric analysis. Prerequisites: Chem. 112 and algebra. Fee, \$6.00. Two lectures, 6 hours laboratory. Credit, 4 hours.

142 *Quantitative Analysis*. Continuation of Chem. 141. Prerequisite: Chem. 141. Fee, \$6.00. Credit, 4 hours.

150 *Glass Blowing*. Laboratory techniques in glass blowing. Limited to science majors. Fee, \$6.00. Four hours laboratory. Credit, 1 hour.

180\* *Elementary Organic Chemistry*. Survey of the compounds of carbon, including representative groups of aliphatic and aromatic series. For students of home economics, agriculture and biology. Prerequisite: Chem. 110 or 111. Fee, \$4.00. Three lectures, 3 hours laboratory. Credit, 4 hours.

\* In each of the following groups credit is allowed for one course only: Chem. 110, 111; Chem. 180, 211; Chem. 231, 251.

**211\*** *General Organic Chemistry.* Chemistry of organic compounds. Prerequisite: Chem. 141. Fee, \$5.00. Three lectures, 3 hours laboratory. Credit, 4 hours.

**212** *General Organic Chemistry.* Continuation of Chem. 211. Prerequisite: Chem. 211. Fee, \$7.00. Credit, 4 hours.

**215g** *Qualitative Organic Analysis.* Systematic identification of organic compounds. Prerequisite: Chem. 212. Fee, \$7.00. One lecture, 6 hours laboratory. Credit, 3 hours.

**231\*** *Elementary Physical Chemistry.* Properties of solids, liquids, gases, solution, equilibrium, colloidal state. For premedical, biology, agriculture, etc. students. Prerequisites: Chem. 141, 180 or 212. Fee, \$5.00. Three lectures, 3 hours laboratory. Credit, 4 hours.

**251g\*** *General Physical Chemistry.* Includes gases, liquids, solids, solutions, equilibrium, phase rule, electrochemistry, thermodynamics, atomic structure, radioactivity, and colloids. Prerequisites: Chem. 141; Phys. 112; Math. 123. Fee, \$5.00. Three lectures, 1 three-hour laboratory period. Credit, 4 hours.

**252g** *General Physical Chemistry.* Continuation of Chem. 251g. Prerequisite: Chem. 251. Fee, \$5.00. Credit, 4 hours.

**260g** *Applied Chemistry.* Applications of chemistry to agriculture, mining, water, sanitation, and fuels. Prerequisite: Chem. 180 or 212. Credit, 3 hours.

**271g** *Instrumental Analysis.* Advanced analysis utilizing instruments in qualitative and quantitative determinations. Prerequisites: Chem. 142 and 212, Phys. 112. Fee, \$6.00. Two lectures, 3 hours laboratory. Credit, 3 hours.

**272g** *Advanced Inorganic Chemistry.* Periodic relationships, preparation and applications of common elements and compounds. Prerequisite: Chem. 142. Credit, 3 hours.

**273g** *Advanced Inorganic Chemistry Laboratory.* Preparation and purification of typical inorganic substances with emphasis on methods and techniques. Prerequisite: Chem. 272 (or concurrently). Fee, \$6.00. One lecture, 3 hours laboratory. Credit, 2 hours.

**276g** *Radiochemistry.* Fundamentals of radioactivity, natural and artificial radio-isotopes, nuclear reactions, isolation of isotopes, nuclear energetics, measurement of radioactivity, tracer techniques, and other applications. Prerequisite: Chem. 252 (or concurrently). Three lectures. Credit, 3 hours.

**280g** *Biochemistry.* Chemistry of animal and plant life including biological compounds, tissues, foods and digestion, enzymes, etc. Prerequisites: Zool. 172; Chem. 180 or 212. Three lectures. Credit, 3 hours.

\* In each of the following groups credit is allowed for one course only:  
Chem. 110, 111; Chem. 180, 211; Chem. 231, 251.

281g *Biochemistry Laboratory*. Qualitative and quantitative chemistry of carbohydrates, fats, proteins, enzymes; milk, blood and urine analysis. Prerequisite: consent of instructor. Fee, \$6.00. Three hours laboratory. Credit, 1 hour.

## Physics

Phys. 105 *Descriptive Astronomy*. A study of the solar system, planets, and stars from the observational and descriptive viewpoint. Fee, \$1.00. Credit, 2 hours.

110 *Introduction to Physics*. Survey of the fundamental principles of physics, presented with a minimum of mathematics, to give the student an understanding of the concepts of physics as applied to everyday life. Fee, \$4.00. Three lectures, 3 hours laboratory. Credit, 4 hours.

111\* *General Physics*. The fundamental principles of mechanics, heat, and sound presented with an emphasis on applications to medicine, dentistry, and other professional fields, except engineering. Prerequisites: Math. 106 or 107 and Math. 118. Fee, \$4.00. Three lectures, 3 hours laboratory. Credit, 4 hours.

112\* *General Physics*. The fundamental principles of magnetism, electricity, and light. Prerequisite: Phys. 111. Fee, \$4.00. Three lectures, 3 hours laboratory. Credit, 4 hours.

113 *Introductory Modern Physics*. Fundamental principles of spectroscopy, X-rays, nuclear theory, cosmic rays, photoelectricity. Prerequisites: Phys. 112; algebra and trigonometry. Credit, 3 hours.

121\* *Engineering Physics*. The principles of mechanics, heat, and sound, presented from the engineering viewpoint. Prerequisite or corequisite: Math. 122. Fee, \$5.00. Four lectures, 3 hours laboratory. Credit, 5 hours.

122\* *Engineering Physics*. The principles of electricity, magnetism, light, and modern developments presented from the engineering viewpoint. Prerequisites or corequisites: Phys. 121 and Math. 123. Fee, \$5.00. Four lectures, 3 hours laboratory. Credit, 5 hours.

200 *General Astronomy*. A study of the solar system, motions of the planets, eclipses, stars, galaxies, and an introduction to navigation and astrophysics. Prerequisite: Phys. 112. Fee, \$1.00. Credit, 3 hours.

210 *Photography*. A study of the principles and applications of photography from the viewpoint of physics and chemistry. Prerequisites: Phys. 112 and Chem. 110 or 111. Fee, \$5.00. Two lectures, 3 hours laboratory. Credit, 3 hours.

215 *Electronics*. A study of the principles of electronics with applications to vacuum tube circuits. Prerequisites: Phys. 112; Math. 122. Credit, 3 hours.

\* Credit is allowed for one course only in each of the following groups: Phys. 111, 121; 112, 122.

219 *Advanced Mechanics*. A study of mechanics from the viewpoint of the Calculus. Prerequisites: Math. 123 and Phys. 112, or equivalent. Credit, 3 hours.

220 *Advanced Heat*. A study of the principles of heat energy with an introduction to thermodynamics. Prerequisites: Math. 123 and Phys. 112, or equivalent. Credit, 3 hours.

221 *Advanced Electricity and Magnetism—D.C.* A study of electrostatics, magnetostatics, and direct current electrical phenomena. Prerequisites: Math. 123 and Phys. 112, or equivalent. Credit, 3 hours.

222g *Advanced Electricity and Magnetism—A.C.* Study of alternating current theory with an introduction to wave propagation. Prerequisite: Phys. 221. Credit, 3 hours.

231g *Advanced Light and Optics*. A study of geometrical and physical optics with an introduction to spectroscopy. Prerequisites: Math. 123 and Phys. 112, or equivalent. Credit, 3 hours.

232g *Kinetic Theory of Gases*. A study of the classical theories of Maxwell-Boltzmann with an introduction to the recent theories of Fermi-Dirac and Bose-Einstein. Prerequisites: Math. 123 and Phys. 112, or equivalent. Credit, 3 hours.

241g *Atomic Physics*. A study of extra-nuclear phenomena from an advanced viewpoint. Prerequisites: Math. 123 and Phys. 112, or equivalent. Credit, 3 hours.

242g *Nuclear Physics*. Study of intra-nuclear phenomena from an advanced viewpoint. Prerequisites: Math. 123 and Phys. 113 or 241. Credit, 3 hours.

250g *Advanced Physical Measurements*. Prerequisites: Phys 112 or equivalent, and consent of instructor.

—Mechanics. Fee, \$5.00. Three hours laboratory. Credit, 1 hour.

—Heat and Sound. Fee, \$5.00. Three hours laboratory. Credit, 1 hour.

—Electricity and Magnetism. Fee, \$10.00. Six hours laboratory. Credit, 2 hours.

—Optics and Light. Fee, \$5.00. Three hours laboratory. Credit, 1 hour.

—Modern Physics. Fee, \$5.00. Three hours laboratory. Credit, 1 hour.

## Geology

Geol. 151 *Physical Geology*. Earth changes due to temperature, wind, water, ice, volcanoes, earthquakes, etc. Fee, \$2.00. Three lectures, 3 hours laboratory a week, a minimum of 18 hours field work a semester. Credit, 4 hours.

152 *Historical Geology*. Origin and chronological succession of events that have developed our earth and its life. Fee, \$2.00. Three lectures, 3 hours laboratory a week, a minimum of 18 hours field work a semester. Credit, 4 hours.

211 *Mineralogy*. Mineral structure and identification based on crystal forms, physical properties and chemical composition. Prerequisites: Chem. 112; Geol. 152. Fee, \$3.00. Two lectures, 3 hours laboratory. Credit, 3 hours.

212 *Mineralogy*. Continuation of Geol. 211. Prerequisite: Geol. 211. Fee, \$3.00. Credit, 3 hours.

215 *Economic Geology*. Distribution, origin, occurrence, production and utilization of metallic and nonmetallic minerals. Fee, \$2.00. Credit, 3 hours.

220 *Structural Geology*. Study of rock structures, the principles and mechanics of their formation, and their relation to surface features and mineral deposits. Prerequisites: Geol. 151 and 152. Fee, \$1.00. Credit, 3 hours.

225 *Sedimentation and Stratigraphy*. Origin of sedimentary rocks and their significance in determining geologic history. Prerequisites: Geol. 151 and 152. Fee, \$1.00. Credit, 2 hours.

## Geography

Geog. 100 *Elements of Geography*. Climate, relief, drainage, soils, plant and animal life; their inter-relationship and influence upon man. Credit, 3 hours.

101 *Economic Geography*. Production, distribution, and consumption of various types of commodities of the world and relationships to the activities of man. Credit, 3 hours.

105 *Meteorology*. Weather elements, meteorological instruments, weather maps, forecasting and their relation to activities of man. Prerequisite: Geog. 100. Fee, \$1.00. Credit, 3 hours.

120 *Map Making and Interpretation*. Develops skill in map making and interpretation. Fee, \$1.00. One lecture, 3 hours laboratory. Credit, 2 hours.

125 *Geomorphology*. Development and interpretation of the relief features of the earth. Prerequisite: Geog. 100 or 101. Fee, \$1.00. Credit, 2 hours.

200 *Geography of North America*. Physiographic provinces of the continent with their respective climates, products, and major activities of man. Prerequisite: Geog. 100 or 101. Credit, 3 hours.

206 *Geography of Arizona*. Landscape features, climate, soils, minerals, water resources, plant and animal life, and industries and their influence on man's activities. Prerequisite: Geog. 100 or 101. Fee, \$1.00. Credit, 2 hours.

209 *Geography of South America*. Physiographic regions, their climates, products, and human activities. Prerequisite: Geog. 100 or 101. Credit, 3 hours.

210 *Geography of Caribbean America*. A topical and regional study of the lands bordering the Caribbean, with a view to creating a basis for an understanding of the problems of the people as they are

related to their own environment, to the rest of the world, and particularly to the United States. Prerequisite: Geog. 100 or 101. Credit, 2 hours.

211 *Geography of Europe*. Natural regions of Europe, their climates, relief features, drainage, soils, plants, and animals and their influence upon man's activities. Prerequisite: Geog. 100 or 101. Credit, 3 hours.

215 *Geography of Asia*. Physical and cultural landscapes of the continent. Emphasis on U. S. S. R., its industries, resources and world relationships. Prerequisite: Geog. 100 or 101. Credit, 3 hours.

221 *Geography of Africa, Australia, Oceania, and Antarctica*. Climates, vegetation, surface features, resources, and peoples, and their role in the modern world. Prerequisite: Geog. 100 or 101. Credit, 3 hours.

230 *Climatology*. Principles of climate; attention to climatic regions and climate cycles. Prerequisites: Geog. 100, 105. Credit, 3 hours.

250 *Conservation of Natural Resources*. Distribution, conservation, and most efficient use of natural resources of the United States, including soil, water, minerals, wild life, and recreational facilities. Prerequisite: Geog. 100 or 101. Fee, \$1.00. Credit, 3 hours.

254g *Geography of Trade and Transportation*. Geographic analysis of the world's trade routes by land, sea and air. Prerequisite: Geog. 100 or 101. Credit, 3 hours.

270g *World Geography*. Evolution or modification of cultures and economics influenced by natural environment. Prerequisite: Geog. 100 or 101. Credit, 3 hours.

275g *Political Geography*. Geographic factors influencing the development and growth of national states and their relationships with each other. Prerequisites: Geog. 100 or 101, or Hist. 101 and 102, or P.S. 101. Credit, 3 hours.

289g *Geography of World Problems*. The study of world problems as a product of their geographic setting and the effects of man in changing his environment. Prerequisite: Geog. 100 or 101. Credit, 3 hours.

## Medical Technology

The following courses are offered in the laboratories at St. Joseph's, Good Samaritan, and Memorial Hospitals in Phoenix and are open only to seniors taking the Medical Technology curriculum. See pages 115-116.

Med. Tech. 201. *Clinical Medical Technology*. Clinical training in pathogenic bacteriology, biological techniques, histology, serology, parasitology, hematology, biochemistry, blood chemistry, urinalysis, and chemistry of digestion. Fee, \$25.00 (payable at hospital). Credit, 16 hours.

202 *Clinical Medical Technology*. Continuation of Med. Tech. 201. Fee, \$25.00 (payable at hospital). Credit, 16 hours.

## Psychology

SKINNER (Head of the Department), BALL, FRED CRAWFORD, DOLPHIN, GURNEE, HUMPHRY, SYDNEY SMITH, YOUNG.

### Psychology

Psych. 100 *Elementary Psychology*. Considers such activities as emotions, motives, thinking, observing, learning, and intelligence, and their role in the development and adjustment of the individual. Fee, 50 cents. Credit, 3 hours.

101 *Survey of Psychological Fields*. A course to acquaint the students with the chief characteristics of several fields of psychology, such as social psychology, clinical psychology, child psychology, animal psychology, etc. Attention is given to the experimental findings in the various subject fields and to the psychologist's role in shaping modern thinking. Prerequisite: Psych. 100. Credit, 3 hours.

114 *Applied Psychology*. A survey course in which the applications of psychological principles and researches in several fields of human endeavor are discussed. Prerequisite: Psych. 100. Credit, 3 hours.

115 *Mental Hygiene*. Factors necessary for good mental health; basic needs of the individual; prevention of mental disorders and correction of personality disorders in their early stages. Prerequisite: Psych. 100. Credit, 2 hours.

140 *Introduction to Human Growth and Development*. A survey of the physical, mental, emotional, and social growth and development of the child from birth to adulthood, including field trips and laboratory experiences. Prerequisites: Soc. 120; Psych. 100. Fee, 50 cents. Credit, 2 hours.

200g *Educational Measurements*. Evaluation and measurement of the individual in school and other experiences. Analysis and construction of tests; meanings of scores; diagnosis of individual strengths and weaknesses; remedies suggested for the individual having difficulty. An appreciation of the need for adequate measurement before evaluation. Prerequisite: Psych. 213. Fee, 50 cents. Credit, 3 hours.

211g *Statistical Methods*. Interpretation and application of statistics as employed in education and psychology. Measures of central tendency, variability, sampling, reliability, and correlation. Prerequisite: Psych. 200. Two lectures, 3 hours laboratory. Credit, 3 hours.

213 *Educational Psychology*. An analysis and application of psychological facts and laws particularly relevant to the problems of education. Prerequisite: Psych. 100. Credit, 3 hours.

214 *Business Psychology*. A review of the principles of employment testing and personnel selection; analysis of the psychological problems relating to advertising, selling, and business practices. Prerequisite: Psych. 100. Credit, 3 hours.

220g *Individual Mental Testing*. A study of the Stanford-Binet and other scales, and of performance tests. Practice in giving these tests.



Prerequisites: Psych. 200, 213, 224. Fee, \$1.00. Two lectures, 3 hours laboratory. Credit, 3 hours.

224 *Clinical Psychology*. Survey of clinical work in diagnosis and adjustment of problem children. Educational and other adjustment problems are diagnosed and remedial measures suggested. Prerequisite: Psych. 14. Credit, 3 hours.

225 *Social Psychology*. The behavior of man in his social relations. Problems of crowd behavior, social control, propaganda, suggestion, imitation, competition, cooperation, and leadership. Prerequisites: Psych. 100 and Soc. 120. Credit, 3 hours.

226g *Behavior Problems and Juvenile Delinquency*. A review of investigations on behavior problems and delinquency; factors contributing to delinquency; prevention and correction; case studies. Prerequisite: 4 courses in psychology and sociology. Credit, 2 hours.

228g *Psychology of Reading*. A survey of the recent psychological literature in reading. Special emphasis on psychological problems in reading, therapy, diagnosis and reading readiness at all levels. Prerequisite: Psych. 213. Fee, \$1.00. Credit, 2 hours.

230g *Abnormal Psychology*. Study of the neuroses, psychoses, and mental deficiency. Dynamics of abnormal behavior. Prerequisites: twelve hours in psychology and sociology. Credit, 3 hours.

231 *Psychology of Adolescence*. Methods and findings of recent studies of the development, growth and problems of the adolescent, with implications for education. Prerequisite: Psych. 140 or 213. Credit, 2 hours.

234 *Child Psychology*. Development, growth and psychological activities of the child. Problems of adjustment and child training. Survey of experimental and observational studies. Prerequisite: Psych. 100. Credit, 3 hours.

236g *Directed Experiences with Infants and Young People*. A study of the methods in evaluating the development of infants and young children, directed experiences, and special studies adapted to the needs of the student. Prerequisites: Psych. 140, 234, or 220. Credit, 3 hours.

237 *Experimental Psychology*. A survey of typical experiments in psychology including reaction time, perception, learning and problem solving. Emphasis on methods of experimentation. Demonstrations. Prerequisite: Psych. 100. Fee, \$1.00. Credit, 3 hours.

238g *Physiological Psychology*. A study of the physiological basis of behavior, including the nervous system and nerve physiology, special senses, motor response mechanisms, learning, and emotions. Prerequisite: Fifteen hours of psychology. Credit, 3 hours.

239g *Psychology of Motivation and Emotions*. An analysis of underlying motives and emotions functioning in human development. Emphasis is placed on applications to educational and clinical psychology. Prerequisite: Psych. 224. Credit, 2 hours.

240 *Psychology of Personality.* The elements of personality, and the conditions which determine the pattern and the direction of its growth. Methods of judging personality and character. Prerequisite: at least 3 courses in psychology. Credit, 3 hours.

242g *Recent Problems in Psychology.* Seminar based on readings and discussions of contemporary problems in psychology. Prerequisite: 12 hours in psychology. Credit, 2 hours.

244 *History of Psychology.* Major problems and trends of modern psychology traced from their beginnings to the present including the development of the modern scientific approach. Prerequisite: 12 hours in psychology. Credit, 3 hours.

250g *Clinical Techniques.* Principles and techniques of clinical diagnosis including therapy, counseling, interviewing, projective techniques, and diagnostic tests. Prerequisite: Psych. 224. Credit, 3 hours.

260g *Directed Observation and Experience.* Supervised observation and experience in work of a psychological nature; observation and experience in either a school, State or County institution according to the interests, needs, and abilities of the student. Prerequisites: A major in Psychology and the completion of 80 semester hours, or a graduate student. (Enrollment by permission only.) Credit, 3 hours.

261g *Directed Observation and Experience.* Continuation of Psych. 260g (Enrollment by permission only). Credit, 3 hours.

282g *Reading Clinic.* Laboratory practice in administration, interpretation and application of diagnostic tests and remedial procedures in reading on elementary and secondary school levels. Prerequisites: Psych. 200, 213, 224 or permission. Fee, \$1.00. Credit, 3 hours.

301 *Seminar in Child and Adolescent Psychology.* Special study of selected problems of growth, development, and activities of the child and adolescent. Credit, 3 hours.

308 *Advanced Educational Psychology.* Review of scientific publications on the facts, laws, and theories of learning, with reference to problems of education. Prerequisites: Psych. 200, 213. Credit, 2 hours.

313 *Recent Studies in Educational Psychology.* Survey of the latest experimental reports relevant to current problems of teaching. Prerequisites: Psych. 200, 213. Credit, 2 hours.

315 *Theory and Function of Test Construction.* Extensive treatment of the theory and functions of measurement in education and psychology and techniques of test construction. Prerequisites: Psych. 200, 211g, 213. Credit, 3 hours.

320 *Individual Differences.* The nature and extent of psychological differences among individuals and groups, and their significance for curriculums and educational methods. Prerequisites: Psych. 200, 213. Credit, 2 hours.

322 *Psychology and Education of Exceptional Children.* Psychological principles essential for the understanding and education of exceptional children. Credit, 2 hours.

333 *Personnel Techniques and Problems.* Application of psychological principles to student, business and industrial personnel problems. Prerequisite: at least eight hours in psychology. Credit, 2 hours.

334 *Psychology of Interviewing.* Survey of interviewing principles applied to counseling, therapy, informational interviewing, employment techniques, and public opinion surveys. Actual practice provided. Prerequisite: At least 5 hours in clinical sequence. Credit, 2 hours.

335 *Aptitudes and Aptitude Tests.* The theory of aptitudes, types of aptitude tests, and use of aptitude tests in the guidance program. Prerequisite: Psych. 200. Credit, 2 hours.

350 *Theory and Practice of Clinical Counseling.* A survey of the major theories and techniques underlying psychotherapy including psychoanalysis, directive therapy, non-directive therapy, group therapy, play therapy, psychodrama, etc., together with their possible application to the school situation. Credit, 2 hours.

## Philosophy

Phil. 100 *Introduction to Philosophy.* Great thought in Western culture, ancient, and modern times; Plato and Aristotle to Hume and Kant, James and Dewey. Credit, 3 hours.

150 *Logic.* Principles and methods of correct thinking. Examples of logical fallacies and ways of detecting them. Credit, 3 hours.

202 *Principles of Ethics.* The meaning of right and wrong, the development of moral understanding, the ethical foundations of personal and social relations. Prerequisites: Psych. 100; Phil. 100. Credit, 3 hours.

203 *Readings in Ancient Philosophy.* Readings in the philosophical classics of ancient Greece and Rome with special emphasis upon the works of Plato and Aristotle. Prerequisite: Phil. 100. Credit, 2 hours.

204 *Contemporary Philosophy.* An examination of the problems in modern philosophy; Pragmatism, Existentialism, Positivism, Realism, and other kinds of modern doctrine. Prerequisites: Phil. 100 or consent of the instructor. Credit, 3 hours.

205 *Social Philosophy.* Important contributions to social thinking, with special emphasis on the ideological conflicts of modern times. Prerequisite: Phil. 100 or consent of instructor. Credit, 3 hours.

206 *Philosophy of Science.* An examination of the ideas basic to modern science, and of their impact on our culture, on the progress of science, on morality, and on education. A clarification of scientific description, explanation, prediction, and theory formation. An examination of causality, probability, and determinism. Credit, 3 hours.

## Social Studies

WYLLYS (Head of the Department), VAN PETTEN (Acting Head of the Department), HERRICK, HUBBARD, KRENKEL, LINDSTROM, MOORE, ROSS RICE, STEWART, TILDEN, BERNADETTE TURNER.

### History

Hist. 101 *Survey of Western Civilization, I.* Origins of western civilization and its development through medieval times. Credit, 3 hours.

102 *Survey of Western Civilization, II.* Continuation of Hist. 101 through Renaissance and modern times. Credit, 3 hours.

103 *United States Through the Civil War.* From 1783 through Civil War. Credit, 3 hours.

104 *United States Since the Civil War.* Continuation of Hist. 103 to the present period. Emphasis on economic and cultural growth. Credit, 3 hours.

105 *History of England to 1603.* A survey of the political, economic, and social development of the British people from the earliest times to end of the Tudor period. Credit, 3 hours.

106 *History of England Since 1603.* Political, economic and social development of England and the British Empire from 1603 to the present. Credit, 3 hours.

107 *Ancient Orient and Greece.* Western ancient history through the Hellenistic period. Credit, 3 hours.

108 *History of Rome.* Roman period from the origin of Rome to the downfall of the Roman Empire. Credit, 3 hours.

109 *Economic History of the United States.* The development of American economic institutions, with attention given to their early background in Europe. Credit, 3 hours.

111 *The Southwest to 1865.* Survey of southwestern history before Civil War times. Credit, 3 hours.

112 *The Southwest Since 1865.* Development of southwestern states, people and economic life since Civil War. Credit, 3 hours.

114 *Colonization of North America.* Colonial era of American history, both Spanish and English, with some consideration of French and other colonial peoples to 1783. Credit, 3 hours.

115 *Colonial Hispanic America.* Period of exploration, conquest and colony development among Latin American peoples to 1830. Credit, 3 hours.

116 *Independent Hispanic America.* Nationalistic growth of the peoples of Latin America since the winning of independence. Credit, 3 hours.

200 *The Middle Ages*. The development of Western Europe from the fall of Rome to the Renaissance with particular emphasis on the social and cultural development. Prerequisites: Hist. 101-102 or equivalent. Credit, 2 hours.

201g *History of the British Empire*. The growth and development of the British Empire with particular stress on the commercial, economic, and governmental aspects of the empire. Prerequisites: Hist. 101-102 or Hist. 105-106. Credit, 2 hours.

202g *The Far East*. Early and modern history of China, Central Asia, Japan, Malaysia and India. Prerequisites: Hist. 101, 102. Credit, 2 hours.

203g *American Foreign Relations*. The machinery of American diplomacy and development of American foreign policy. Prerequisites: Hist. 103, 104. Credit, 3 hours.

204 *American Frontier*. Territorial expansion and settlement of the American people since colonial times. Prerequisites: Hist. 103, 104. Credit, 2 hours.

205g *French Revolution and Napoleon*. Period of world revolution and imperialist wars, 1763-1815. Prerequisites: Hist. 101, 102. Credit, 2 hours.

206g *Contemporary Europe*. European history since the First World War. Prerequisites: Hist. 101, 102. Credit, 2 hours.

207g *History of Mexico*. The formation, culture and social life of the Mexican people since colonial times. A knowledge of Spanish is desirable but not essential. Prerequisites: Hist. 103, 104. Credit, 3 hours.

208g *American Cultural History*. The development to 1860 of American ideas, ideals, literary expressions and social standards. Prerequisites: Hist. 103, 104. Credit, 2 hours.

209g *American Cultural History Since 1860*. A continuation of Hist. 208g, dealing with American culture since the middle nineteenth century. Prerequisites: Hist. 103, 104. Credit, 2 hours.

210g *Renaissance and Reformation*. Antecedents and development of the Renaissance in Italy, its spread into the rest of Europe, and the resultant revolution in religious and political thought. Prerequisites: Hist. 101, 102. Credit, 2 hours.

211g *Nineteenth-Century Europe*. Growth of nationalism in nineteenth-century Europe, with emphasis upon economic, political and social trends. Prerequisites: Hist. 101, 102. Credit, 2 hours.

212g *The Pacific Area*. History of the countries surrounding and controlling the Pacific. Emphasis upon cultural backgrounds. Prerequisites: Hist. 101, 102. Credit, 2 hours.

214g *History of Russia and Eastern Europe*. A general survey of Eastern European and Russian history from ancient times to the present day. Prerequisites: Hist. 101, 102 or equivalent. Credit, 2 hours.

215g *Great Personalities in American History*. Considers the contributions of noted Americans in the scientific, cultural, philosophical, economic, and political development of the United States. Prerequisites: Hist. 103, 104. Credit, 3 hours.

216g *American Biography Since 1860*. Considers the contributions of noted Americans in the scientific, cultural, philosophical, economic, and political development of the United States since 1860. Prerequisites: Hist. 103, 104. Credit, 3 hours.

217g *Constitutional History of the United States*. The origin and development of the Constitution of the United States with special emphasis on how it has been interpreted by the courts. Prerequisites: Hist. 103, 104. Credit, 3 hours.

219 *Recent American History*. Covers the important developments in American history since the First World War. Prerequisite: Hist. 104. Credit, 2 hours.

220 *Historical Literature*. Deals comparatively with the works and ideas of leading historians. Open to seniors only. Prerequisites: Previous completion of at least six hours in upper division courses in history. Required of all majors in any of the social studies subjects. Credit, 2 hours.

223g *British Constitutional History*. Traces the historical development of the constitutional system of Great Britain from the Middle Ages to the present with particular emphasis on the growth of democracy. Prerequisites: Hist. 101, 102 or Hist. 105, 106. Credit, 2 hours.

300 *Seminar in Methods of Research in the Social Studies*. Designed to introduce the student to the scientific method of research in the social studies. Required of candidates for the master's degree specializing in social studies. Credit, 2 hours.

301 *Contemporary United States*. Individual study and research in American political, economic or social history since 1920. Credit, 2 hours.

302 *Historiography and Historical Philosophy*. Studies in historical method and theories of history. Offered when demand is sufficient. Credit, 2 hours.

## Political Science

P. S. 101 *Introduction to Political Science*. Principles of government and theories of law and the state. Credit, 3 hours.

102 *American Government: State and Local*. Workings of the typical American State government, its principles of administration and the conduct of county and local governments. Credit, 3 hours.

103 *Municipal Government*. Structure, methods and principles of American city governments and their administration. Credit, 3 hours

- 104 *American Political Parties.* History of leading political parties and principles of famous party leaders. Credit, 3 hours.
- 105 *American Government: Federal.* Principles and practice of our federal government in its policy-making, administrative, and judicial aspects. Cannot be substituted for P.S. 200. Credit, 3 hours.
- 106 *History of Political Thought.* Political philosophers and their theories from Plato and Aristotle to modern times. Credit, 3 hours.
- 200 *Constitutional Government.* National and Arizona government. Meets requirements for certification. Credit, 3 hours.
- 201 *Comparative National Governments.* Background of present-day typical governments, with consideration of the principles underlying each. Prerequisite: P.S. 101. Credit, 2 hours.
- 203 *Public Administration.* Practices and principles of government administration, chiefly in the United States. Prerequisites: P.S. 101, 102. Credit, 3 hours.
- 204g *International Law and Relations.* Principles and practices of national governments under the laws and customs of war and peace. Prerequisite: P.S. 101. Credit, 2 hours.
- 206g *Contemporary Political Thought.* Political ideas and philosophy from the French Revolution to the present. Prerequisite: P.S. 101. Credit, 2 hours.
- 207 *Government and the American Economy.* Relationships of business and industry, agriculture, and labor to American government. Prerequisite: P.S. 105 or equivalent. Credit, 2 hours.
- 208g *Political Opinion and Propaganda.* Analysis of informal and organized influences and pressures upon our political institutions. Credit, 2 hours.
- 209g *Contemporary Political Leaders.* Consideration of the social status, techniques, and personality traits of selected world political figures of today. Credit, 2 hours.
- 210g *Problems in State and Local Government.* Techniques and tools for research in state and local government with particular application to current problems of Arizona governments. Individual and group projects. Prerequisite: Approval of instructor. Credit, 2 hours.
- 300 *Seminar in Political Science.* Individual research work in any field of political science. Offered when demand is sufficient. Credit, 2 hours.
- 301 *Seminar in Public Administration.* Individual investigation of current problems in the activities of selected government agencies. Prerequisite: P.S. 107. Credit, 2 hours.

## Sociology

- Soc. 120 *Sociology.* Study of human relationships, human wants, and social institutions. Aims to discover foundations basic to a stable and progressive civilization. Credit, 3 hours.

202 *Rural Sociology*. Rural regions of the U.S.; rural people; rural social organizations. Emphasis on rural life in Arizona. Prerequisite: Soc. 120. Credit, 2 hours.

203 *Marriage and the Family*. The family is interpreted as a basic social institution. The development of the family from an economic unit to a companionship is related to cultural factors. Emphasis is placed upon socialization of the individual and his adjustment to the social order as major functions of the family. Prerequisite: Soc. 120. Credit, 3 hours.

204 *Urban Sociology*. A study of contemporary city life and its effect on the individual personality and on the social organization. Rural-urban conflicts of culture. Prerequisite: Soc. 120. Credit, 2 hours.

205 *History of Social Welfare*. Methods of helping the poor from ancient times to the present. Systems of relief in Europe, England, and the United States. Credit, 3 hours.

212 *Introduction to Social Work*. Class discussion and field trips to help students with their relationships with others. Study of social agencies and their approach to human problems. Credit, 3 hours.

214 *Introduction to Child Welfare*. A general survey of the child welfare field, with special reference to its historical development and contemporary programs, such as aid to dependent children, rural child welfare services, foster home placement, day nurseries, children's homes, and adoption services. Prerequisite: Soc. 212. Credit, 2 hours.

215 *Community Organization*. A study of the methods by which a coordinated social agency functions in the community and utilization of community resources. Credit, 3 hours.

220g *Principles of Criminology*. Causation of crime; juvenile delinquency; apprehending, convicting, and sentencing of criminals; probation and parole; penology. Prerequisite: Soc. 120. Credit, 3 hours.

225 *Modern Social Problems*. Current problems of race relations, poverty and unemployment, mental disease, mental deficiency, etc. Prerequisite: Soc. 120. Credit, 3 hours.

## Anthropology

Anthro. 125 *Elementary Anthropology*. Primitive society, religion, material culture, the origin and antiquity of man and civilization, modern races, the linguistic phases of culture, and the principles of anthropology. Credit, 3 hours.

126 *Indians of the Southwest*. Culture of living Indian tribes—Navajo, Hopi, Pima, Papago, etc. Southwestern archaeology. Social problems of the Southwestern Indians. Credit, 3 hours.

127 *Indians of Mexico and Peru*. Archaeology and ethnology of the Mayas, Aztecs, Chibchas, Incas. Present day tribes of Middle America. Social problems of Mexican and Peruvian Indians. Prerequisite: Anthro. 125 or Soc. 120. Credit, 3 hours.



201 *Physical Anthropology*. Fossil men, race classification and distribution, racial history and race problems, man's place in the animal kingdom, human heredity. Prerequisite: Anthro. 125 or Soc. 120. Credit, 2 hours.

206g *Social Anthropology*. Social organization, social institutions, and cultural diffusion; acculturation, culture and personality, the community study, selected primitive cultures. Prerequisite: Soc. 120 or Anthro. 125. Credit, 3 hours.

207g *The American Indian*. Archaeology, ethnology, and linguistic relations of the Indians of North and South America. Current social and economic problems of the Indians. Prerequisite: Soc. 120. Credit, 3 hours.

208g *Archaeological Fields Methods*. The excavation of archaeological sites and the recording and interpretation of data. Includes field experience in this locality. Fee, \$3.00. Two lectures, 3 hours laboratory. Credit, 3 hours.

209g *American Minority Peoples*. Problems of racial, national and religious minorities in the United States. Prejudice, acculturation and assimilation. Prerequisite: Soc. 120. Credit, 3 hours.

## Technology and Industry

THOMPSON (Head, Division of Technology and Industry), BURK, CAVALIERE, DOUTHIT, ELMORE, ENSIGN, FINLEY, GOODWIN, HAMMOND\*, KAUFMAN, KEITH, MERRITT, NEEB, PEABODY.

### Aeronautics

T.I. 126 *Aircraft Covering and Doping*. Fabric materials and testing, accessories, inspection of assemblies prior to covering, sewing of covers, rib stitching, repairs, hand doping, spray doping, including study of equipment used. Fee, \$4.00. One lecture, 3 hours laboratory. Credit, 2 hours.

130 *Aircraft Woodwork*. Materials used, rib construction, wing construction, spar splicing, alignment of drag truss, general wood repairs, inspection, testing, and use of power and hand tools. Fee, \$4.00. One lecture, 3 hours laboratory. Credit, 2 hours.

131 *Aircraft Engines*. Disassembly and assembly of aircraft engines including complete top overhaul. Timing of engines, synchronizing magnetos, carburetion, ignition and oil systems. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.

132 *Airplane Mechanics*. Types of wood rib construction, use of power sewing machine, covering, doping and painting, riveting, and uses of metals for aircraft construction. Fee, \$6.00. Prerequisites: T.I. 160, 179. One lecture, 6 hours laboratory. Credit, 3 hours.

153 *Theory of Flight*. A study of the forces on solids in motion relative to air, and the study of motion of air. Theory of lift and drag, stability performance, and control. Fee, \$4.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

\*Special Faculty

200 *C.A.A. Primary Ground School Course.* Sponsored by the Civil Aeronautics Authority. A total of 72 hours in class are required as follows: History of Aviation, 2 hours; Theory of Flight, 15 hours; Civil Air Regulations, 12 hours; Practical Air Navigation, 15 hours; Meteorology, 15 hours; Parachutes, 1 hour; Aircraft Power Plants, 5 hours; Aircraft Instruments, 5 hours; Radio Uses and Terms, 2 hours. Prerequisites: College Algebra and Trigonometry or equivalent. Flight instruction costs are extra. Fee, \$4.00. Four times a week. Credit, 4 hours.

204 *The Secondary Ground School Course.* A minimum of 128 hours in the following: Aerodynamics, 32 hours; Navigation, 48 hours; Powerplants, 48 hours. Prerequisite: T.I. 200. Passing of Government examination required for college grade. Fee, \$8.00. Eight lectures a week. Credit, 8 hours.

220 *C.A.A. Ground Instructors Rating: Civil Air Regulations.* A detailed study of the various regulations affecting airmen including preparation of visual aid materials as an aid to making the subject more interesting. Fee, \$3.00. Credit, 3 hours.

225 *Aircraft Instruments.* Construction and operation of instruments used with aircraft powerplants and those recommended for successful flight operation. Fee, \$6.00. Credit, 3 hours.

234g *Aeronautical Instructional Materials.* Design, construction, and operation through models and mockups of visual aid devices for aviation construction for use in pre-flight and mechanics courses in aviation. Prerequisites: T.I. 103, 111, 121 or 179. One lecture, 3 hours laboratory. Fee, \$4.00. Credit, 2 hours.

269g *Pre Flight Aeronautics for Teachers and Laymen.* Gives an insight into the world of aviation and practical applications of navigation, meteorology, use and care of instruments, civil air regulations, and operation of aircraft engine power plants. Meets the needs of teachers, and those planning to do technical work. Fee, \$3.00. Three lectures, 1 hour laboratory. Credit, 3 hours.

298g *Celestial Navigation for Ground School Instructors and Teachers.* Location of stellar bodies in the celestial sphere. Locating the substellar positions, circles of position, and establishment of fixes from sextant observations. Solving the astronomical triangle. Prerequisites: T.I. 200 or 204 or 269 or 15 hours aeronautics or equivalent. Fee, \$3.00. Three lectures. Credit, 3 hours.

## Building and Construction

T.I. 105 *Architectural Drawing.* For students preparing to teach or for drafting and engineering work. Fee, \$3.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

106 *Architectural Drawing.* Complete plans and estimates of materials for a two-story house. Prerequisite: T.I. 105. Fee, \$3.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

- 121 *Wood Work*. Basic types of furniture construction and repair suitable for use in school shops. No machine work. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.
- 122 *Cabinet Making*. Principles of furniture construction, and correct use of hand tools and machines. Prerequisite: T. I. 121. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.
- 133 *Plastics*. Practical uses of plastics and their uses for school work shops and hobby shops. Fee, \$6.00. Six hours a week. Credit, 3 hours.
- 134 *Materials of Construction*. A study of cement and concrete mixes, stucco, plaster materials, brick and concrete block work, roofing materials, lumber, wood, preservatives, paints and varnishes. Prerequisite: T.I. 103 or 105. Fee, \$4.00. Credit, 2 hours.
- 136 *Upholstery*. Selection of fabrics and materials. Practice in the various craft processes used. Construction of necessary frames and bases. Design of jigs. Use of hand and power tools. Wood finishing. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.
- 145 *Elementary Surveying*. Care, adjustment and use of surveying instruments, and computations. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.
- 151 *General Shop*. The practical application of accepted industrial processes in the use of supplies and materials by industrial art shops in the elementary and secondary schools. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.
- 163 *Wood Turning*. Drills in spindle, face plate, and chuck work, with practice in finishing and polishing. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.
- 165 *Theory of Acoustics*. Acoustical theory and problems relating to studios, theaters, auditoriums, amphitheaters, and homes. Two lectures. Credit, 2 hours.
- 180 *Mechanical Equipment in Buildings*. Water supply, drainage systems, heating, ventilating, and air conditioning. Fee, \$1.00. Two lectures. Credit, 2 hours.
- 181 *Electrical Equipment in Buildings*. Electrical systems, refrigeration, and vertical transportation (elevators). Fee, \$1.00. Credit, 2 hours.
- 206 *Advanced Plastics*. Emphasis on materials, machine operations, carving, cementing, embossing and inlaying. Prerequisite: T.I. 133. Six hours a week. Fee, \$6.00. Credit, 3 hours.
- 207 *Cabinet Making and Mill Work*. Advanced types of furniture; construction and tenoning; panels; gluing; finishes; design; power machines. Prerequisite: T.I. 122. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.

208 *Carpentry and House Construction.* Use of steel square and carpenter tools; sharpening tools; framing processes; short cuts; trade terminology; FHA standards. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.

217 *Stair Building.* Construction of straight stairways, platforms, and circular stairways to one-third scale. Prerequisite: T.I. 208. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.

218g *Steel Square and Roof Framing.* Problems involving the steel square in carpentry, framing, stair building, and sheet metal. Prerequisite: T.I. 208. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.

222g *Geometry of the Steel Square.* Use of steel square and layout of irregular roofs, geometrical problems, and marquetry and their application to the fields of building and construction and design. Prerequisite: T.I. 208 or equivalent. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

224g *Estimating and Contracting.* Making cost analysis of structures and utilities placed in them. Procedures concerning titles, mechanic liens, obligations of contractors, etc. Quality values and costs. Writing specifications and contracts. Prerequisites: T.I. 106, 121, 122. Fee, \$3.00. Credit, 3 hours.

236 *Advanced Upholstery.* Design and construction of large pieces of upholstered projects. Advanced wood finishing. Prerequisite: T.I. 136. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

242g *Industrial Production of Upholstered Projects.* The design, construction, and assembly of upholstered projects on an industrial basis. Students are taught industrial and commercial procedures in the use of sewing machines, cushion stuffers, welting and button making equipment, blind stitching, pattern layouts, and advanced wood working machinery. Prerequisite: T.I. 236. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

245 *Route Surveying.* Techniques of using instruments in the field, and associated office computations in surveying and laying out of highways, horizontal curves, vertical curves, cuts, fills, borrow pits and haulage. Prerequisite: T.I. 145. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

252g *General Shop.* An advanced course giving additional emphasis in mechanical and industrial practices of value to those planning to teach industrial arts. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.

258g *Utilities Services.* Pipe cutting, threading, fitting, calking, roughing in, venting pipe lines, cesspools, toilet fixtures and plumbing requirements. Study of materials used. Prerequisites: T.I. 100, 105, 122, 160; I.A. 109 or equivalent. Fee \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

260 *Advanced Wood Turning.* All kinds of built up, segmented and jointed projects. Prerequisite: T.I. 163. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.

264g *Furniture Construction.* Principles and techniques involved in the construction of furniture through use of both hand and power tools; wood turning, inlaying, carving, finishes, and special processes involved in the design of jigs for production work in school and shops and industry. Prerequisite: T.I. 121. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

268 *Advanced Route Surveying.* Advanced office work and the laying out of routes with special emphasis on spiral and parabolic curves. Prerequisite: T.I. 145. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

276g. *Patternmaking.* Use and operation of woodworking machinery. Study of drafts, shrinkage, finish, warp and shakes. Making patterns, molds and castings. Prerequisite: T.I. 207 or equivalent. One hour lecture, 6 hours laboratory. Fee, \$6.00. Credit, 3 hours.

277g *Beaux Arts Atelier.* Problems in design of homes and industrial and commercial buildings involving sketching, drafting, details, working drawings, perspective, color, and shades and shadows, especially suited for teachers of drawing in the secondary schools and draftsmen. Prerequisite: T.I. 106. Fee, \$3.00. One lecture, 4 hours laboratory. Credit, 2 hours.

278g *Beaux Arts Atelier.* Continuation of T.I. 277. Fee, \$3.00. One lecture, 4 hours laboratory. Credit, 2 hours.

280 *Advanced Surveying.* Topographical surveying, including introduction to plane table, solar observations, etc. Prerequisite: T.I. 145. One lecture, 6 hours laboratory. Fee, \$6.00. Credit, 3 hours.

283g *Practical Application of Building Materials* Practice in the application of industrially accepted mixes of Portland cement, white cement, plasters, lime mortar and stucco, together with instruction and experience in the reinforcing, curing, coloring and finishing of these materials. Prerequisites: T.I. 103, 105. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

284g *Home Building.* Factors involved in the building of a contemporary home including: functions of owner, architect, and contractor, selection of site, design, working drawings, specifications, materials and equipment, contracts and legal procedures, financing, construction and supervision, landscaping and maintenance. For teachers, draftsmen, contractors and prospective homeowners. Fee, \$5.00. Three lectures. Credit, 3 hours.

285g *Estimating and Contracting.* Continuation of T.I. 224 with emphasis on commercial, industrial and public buildings. Contracts, specifications, mechanics' liens, titles, and obligations of contractors and architects. Prerequisite: T.I. 224. Fee, \$3.00. Credit, 3 hours.

286g *Structural Design*. Designed for builders, contractors, and teachers of the industrial arts who need a knowledge of elementary design suitable for small structures and buildings. Fee, \$3.00. Three lectures. Credit, 3 hours.

289g *Period Furniture*. This is a course designated to supply adequate information on furniture sold today which is composed of reproductions of 18th Century inspiration. 18th Century furniture embraces all the styles of the Georgian period, including Chippendale, Hepplewhite, Adam, Sheraton, and lesser known designers. Fee, \$3.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

291g *Building Design*. Construction layout for beams, trusses, straps, plates and joints generally used in building design. Prerequisites: T.I. 161, 286 or equivalent. Fee, \$6.00. Three hours lecture. Credit, 3 hours.

292g *Advanced Building Design*. Problems in lighting, sanitation and air conditioning. Design of reinforced concrete structures including bending moments, stresses, T-beams, slabs, columns, walls and foundations. Prerequisite: T.I. 291 or equivalent. Fee, \$6.00. Three hours lecture. Credit, 3 hours.

294g *Advanced Use of Building Materials*. Practical use of journeyman procedures in the application of industrially accepted mortar mixes, setting up of various kinds of stone, laying of various accepted brick bonds, together with the design and construction of lintels and arches, and the forms for the same. The course will also take up stone cutting and brick making and a discussion of the use of these materials in architecture. Prerequisites: T. I. 103, 105, and 283 or equivalent. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

295g *Geodesy and Photogrammetry*. Baseline measurement, triangulation, fundamentals of geodetic astronomy, field practice in geodetic surveying methods, aerial photography, the planning, characteristics, interpretation and application of the same. Prerequisites: T.I. 140; Math. 118 or 119; Phys. 111 or 121, or equivalent. Two hours lecture, 3 hours laboratory. Credit, 3 hours.

## Drafting

T.I. 103 *Mechanical Drawing*. Elements of orthographic projection. Fee, \$3.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

110 *Blue Print Reading* Study of blue prints and symbols used in the building and construction trades. For teachers, contractors, estimators, architects, and home planners. Fee, \$2.00. Credit, 2 hours.

113 *Engineering Drawing*. Orthographic projections, lettering, tracing, and blue printing. Prerequisite: One year high school drawing, or T.I. 103. Fee, \$3.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

114 *Blue Print Reading*. Blue prints and symbols used in machine shop practices, welding, electronics, sheet metal, auto ignition, and aircraft. Fee, \$3.00. One lecture, 3 hours laboratory. Credit, 2 hours.

124 *Descriptive Geometry*. Problems in warped surfaces and intersections of solids. Prerequisite: T.I. 113. Fee, \$3.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

125 *Descriptive Geometry*. Continuation of T.I. 124 with emphasis on shades and shadows. Prerequisites: T.I. 105, 106, and 124. Fee, \$3.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

155 *Mechanisms*. Study and design of linkages, gears, cams, screws, and other machine elements with the relative motions of machine parts. Prerequisite: T.I. 113. Fee, \$3.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

156 *Machine Drafting*. A course placing emphasis upon techniques in the making of detailed drawings and assembly drawings in accordance with standard drafting room practice. Problems are assigned individually. This course is designed to meet the needs of instructors in drafting in secondary schools. Prerequisite: T.I. 103. Fee, \$3.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

202 *Industrial Drafting*. Problems suited to individual needs in nomographics, lofting, aircraft drafting, statistical drafting, sheet metal pattern drafting, topographics, electrical and machine drafting, including technical data, standards, dimensioning and analysis of shop processes. Technical sketching, calculations, and hand-books. Prerequisites: T.I. 113; I.A. 109 or equivalent. Fee, \$3.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

246g *Advanced Industrial Drafting*. A continuation of T.I. 202. Prerequisite: T.I. 202 or equivalent. Fee, \$3.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

247g *Technical Standards*. Study of the origin, history and classifications of all industrial standards. Prerequisite: 9 semester hours drafting or equivalent. Fee, \$3.00. Two hours lecture, 4 hours laboratory. Credit, 3 hours.

254 *Elementary Machine Design*. Design and layout of machine parts. Prerequisites: T.I. 155, 161. Fee, \$3.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

266g *Structural Drafting*. Consists of drawing, all types of welded, bolted and riveted assemblies which use standard structural shapes for supports and frames used in industry. Elements of design and materials studied and applied from handbooks and catalogs. Prerequisites: T.I. 113, 161. Fee, \$3.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

267g *Steel Fabrication Design*. Drafting and calculations as applied to tanks and pressure vessels. Use of national safety codes. Prerequisites: T.I. 113, 161. Fee, \$3.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

274g *Application of Technical Standards*. Technical standards and specifications applied to industrial design of machines, pressure

vessels, engines, highways, structures, welding and packing. Prerequisites: T.I. 113, 161, or equivalent. Fee, \$3.00. Two hours lecture, 4 hours laboratory. Credit, 3 hours.

### Electricity and Electronics

T.I. 100 *Elementary Electricity*. Theory and practical application of direct and alternating current circuits. Prerequisite for all electrical and radio courses. Fee, \$6.00. Credit, 3 hours.

108 *Intermediate Electronics*. Lectures, films, and use of tests on all phases of basic electronics to give the student a background and preparation for the complexities of electronic and fundamental radio circuits. Fee, \$3.00. Three lectures. Credit, 3 hours.

115 *Fundamentals of Radio*. Basic theory and practical application of radio, including tubes, power supplies, oscillators, detectors. Prerequisite: T.I. 100. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

116 *Transmitter and Receiver Theory*. A study of oscillators, amplifiers, modulators, receivers, transmission lines, antennae, and propagation. Prerequisites: T.I. 100, 115. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

119 *Industrial Electronics*. The theory and application of electronics to the industrial field. Prerequisite: T.I. 100. Fee, \$6.00. One lecture, 3 hours laboratory. Credit, 2 hours.

120 *Principles of Vacuum Tubes*. Principles, construction and operation of various types of tubes, and application in electronic circuits. Prerequisite: T.I. 100. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

127 *Aircraft Radio*. A study of radio used in commercial and private planes and ground installations, including questions and answers for the third class radio telephone license. Prerequisites: T.I. 100, 115. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

140 *Electronic Measurements*. Design, construction, and study of measuring techniques and measuring equipment in use in the laboratory and field of electronics. Prerequisite: T.I. 120. Fee, \$3.00. Two lectures, 3 hours laboratory. Credit, 3 hours.

150 *Physical Basis for Electrical Engineering*. A qualitative discussion of the electrical, magnetic, and dielectric properties of materials and their practical applications in electrical and electronic components. Prerequisite: T.I. 100 or concurrent registration in Phys. 121. Four hours lecture. Credit, 4 hours.

154 *House Wiring*. Installation of lighting circuits, underwriters' regulations, conduit work, and estimation of cost. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

203 *Direct Current Electricity*. Direct current circuits, machinery, measurement, magnetism, and allied subjects. Emphasis on installation, operation, and maintenance of equipment. Prerequisite: T.I. 100. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.



205 *Radio Code*. Sending and receiving international Morse Code. Practice on receiving by tape and commercial receivers. Speed required at close of course is thirteen words a minute. Student is required to obtain his novice license during the course. Fee, \$4.00. Credit, 2 hours.

215g *Micro-Wave Techniques*. A study of micro-wave generating and receiving systems, measurements, theory, installation, operation, and maintenance of typical radar equipment. Prerequisite: T.I. 116. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

216g *Radio-Frequency Tests and Measurements*. Design, construction and operation of advanced types of testing equipment with application to laboratory and field work. Prerequisite: T.I. 116. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

219 *Elementary Television*. Basic principles of television, image reproducing tubes, kinescopes, horizontal and vertical sweep circuits, video amplifiers, receiving, transmitters, and television antenna design. Industrial techniques used in repair, maintenance and construction of television receivers. Prerequisite: T.I. 116. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

249g *Advanced Principles of Television*. Theory of picture reproduction, mixing and distribution circuits, synchronizing generators, count down circuits, methods of modulating video and AM circuits, film reproduction and shading thereof, microwave links for remote transmission, transmission, transmission lines and antenna design. Prerequisite: T.I. 219. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

251 *Alternating Current Electricity*. Alternating currents and voltages, impedance, power, polyphase voltages, alternating current machines. Fee, \$6.00. Two lectures, 4 hours laboratory. Prerequisite: T.I. 100. Credit, 3 hours.

256g *Broadcast Radio*. A study of the Federal Communications Commission laws and problems included in the first-class radio-telephone operator's license examination, control board and control room operation and technique, and transmitter operation and maintenance. Laboratory held in campus studio and local broadcast stations. Prerequisite: T.I. 115 or advanced class amateur license. Fee, \$3.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

259 *Communications Circuit Analysis*. Circuit analysis of four-terminal networks and application of network theorems; filter theory and design of high-pass, low-pass, and band-pass filters; study of telephone, telegraph, and teletype circuits; study of telephone repeater and carrier circuits; advanced study of equivalent circuits applied to amplifiers and oscillators. Prerequisites: T.I. 115, 116. Fee, \$3.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

265g *Advanced Broadcast Techniques*. Advanced technical problems involved in remote broadcasts, local studio broadcasts, and network broadcasts, theory and techniques of disc and tape recordings for broadcasting; study of relations which exist between technicians and

production and programming; advanced control room and studio techniques; and technical problems involved in studio design. Prerequisite: T.I. 256. Fee, \$1.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

272 *Advanced Alternating Current Electricity.* Electrical circuits and machinery. Emphasis on polyphase types of machinery and applications to residential and industrial power. For teachers and for those preparing for industrial and commercial occupations. Two lectures, 4 hours laboratory. Prerequisite: T.I. 251. Fee, \$6.00. Credit, 3 hours.

273g *Advanced Communication Circuit Analysis.* Advanced analysis of multi-terminal networks, theory and design of filters and attenuators, advanced analysis of equivalent circuits for amplifiers, oscillators, etc. Advanced analysis of communication transmission line circuits. Prerequisites: T.I. 259; Math. 122 or equivalent. Fee, \$3.00. Three lectures. Credit, 3 hours.

279g *Pulse Techniques.* Nomenclature and characteristics of pulses, transient response of linear networks, design of pulse networks, linear pulse amplifiers, pulse shaping and clamping circuits, pulse measurements and instruments, and pulse communication systems. Prerequisite: T.I. 259. Three lectures. Credit, 3 hours.

281 *Direct Current Machinery.* Theory, design and construction of direct current machinery, involving field and armature windings. Prerequisite: T.I. 203. Fee, \$6.00. Two lectures, 4 hours laboratory.

282 *Alternating Current Machinery.* Theory, design and construction of polyphase equipment including training in the winding of fields and armatures. Prerequisite: T.I. 251. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

303 *Electricity and Radio for Teachers.* A study of programs and courses in electricity and radio for elementary and secondary schools designed primarily for industrial arts teachers, with emphasis on preparation of course syllabi and laboratory projects. Prerequisites: T.I. 100, 115, or equivalent. Fee, \$6.00. Two lectures, 3 hours laboratory. Credit, 3 hours.

305 *D.C. and A.C. Machinery and Equipment for High School Teachers.* A review of D.C. and A.C. electricity, installation, operation and maintenance of electrical equipment in school and industrial shops. Fee, \$6.00. Credit, 3 hours.

## Mechanics

T.I. 101 *Auto Ignition.* Prepares for commercial shop practice, and includes storage batteries, ignition coils, distributors, lighting systems, etc. Machine shop practice. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

104 *Auto Mechanics.* General repair of automobiles; complete overhaul of gasoline engines. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.

111 *Machine Shop*. Filing, drilling, turning, and polishing with hand tools, and general use of machines. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

112 *Machine Shop*. Making of projects using the complete machine equipment of the department. Fee, \$6.00. Prerequisite: T.I. 111. Two lectures, 4 hours laboratory. Credit, 3 hours.

157 *Jigs and Fixtures*. Design and construction of various devices that facilitate shop production in quantities. Fee, \$6.00. Credit, 3 hours.

160 *Sheet Metal Work*. Laying out and cutting of sheet metal; soldering, riveting; projects including utensils and toys. Prerequisite: T.I. 113. Fee, \$6.00. One lecture, 6 hours laboratory. Credit 3 hours.

161 *Properties of Materials*. Laboratory and class work in analyzing the properties of materials in terms of their use in machines and construction. Fee, \$5.00. Two lectures. Credit, 2 hours.

179 *Welding*. Oxygen-acetylene welding. Various types of welds, laying, use of fluxes. Fee, \$10.00. Credit, 3 hours.

201 *Operation, Repair, and Maintenance of Diesel Engines*. A course in the accepted industrial procedures used in the operation, maintenance and repair of diesel engines, including a study of compression and fuel ratios, methods of fuel injection, problems in pressure lubrication, and heating problems, together with a practical study of fuels and oils. Prerequisites: T.I. 111, 112 or equivalent. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

213g *Sheet Metal*. Problems in roofing, cornice work, practical intersections, and use of sheet metal machines. Fee, \$6.00. One lecture, 6 hours laboratory. Prerequisite: T.I. 160. Credit, 3 hours.

223g *Shop Maintenance Problems*. Course designed especially for teachers of the Industrial Arts and those interested in the problems involved in setting up equipment, grinding, and filing of various cutting tools, together with the care involved in the maintenance and repair of both wood and metal machines and tools. Fee, \$3.00. Credit, 3 hours.

227g *Auto Mechanics*. Cylinder boring, honing, and dual ignition systems. Prerequisite: T.I. 104. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.

228g *Auto Ignition and Repairs*. Repairing, adjusting, and testing generators, starting motors, magnetos, and other electrical equipment in an automobile. Prerequisite: T.I. 101. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.

229g *General Metals*. A course in metal spinning, forming, polishing, soldering and finishing; making sand molds; casting metal; heat treatments for annealing and hardening. Offers opportunity for exploratory work in unusual metal work. Prerequisites: T.I. 111, 115, and 151. Fee, \$6.00. One hour lecture, 5 hours laboratory. Credit, 3 hours.

231g *Machine Shop*. Care and use of milling machines, the cutting of spur, worm and bevel gears. Plain and direct indexing. Cutters and their upkeep. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.

232g *Machine Shop*. Planers, their care, methods of holding work, uses of fixtures, gauges, and tools. Adjustment of belting for speed and power. Prerequisite: T.I. 231. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.

233 *Electric Arc Welding*. Making satisfactory butt welds, lap welds, ridge welds, T-welds. Prerequisite: T.I. 179. Fee, \$10.00. One lecture, 6 hours laboratory. Credit, 3 hours.

241g *Auto Body and Fender Repair*. Welding and straightening, use of body solder and putty, sanding, priming, and painting; interior refinishing and upholstery. Prerequisites: T.I. 136, 104 or equivalent. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

275g *Advanced Welding*. Designed to provide experience and content for students and teachers interested in becoming more specialized in the field of Oxy-acetylene welding-cutting and electric arc welding. Includes specific problems, lectures, and field trips, and the study and performance of new material in the field of welding. Prerequisites: T.I. 179, 233. Fee, \$10.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

288g *Design and Construction of Corrective Equipment*. This course is planned to provide the training and experience necessary to enable the student to design, construct, and operate corrective equipment needed in Manual Arts Therapy. Includes field trips and a study of contemporary factory equipment. Prerequisites: T.I. 100, 111, 113, 179 or equivalent. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

301 *The General Shop*. Advanced study and operation of the tools, processes, and equipment used in general shop. Construction of secondary school projects and preparation of teaching devices. Prerequisite: T.I. 252. Fee, \$6.00. One hour lecture, 6 hours laboratory. Credit, 3 hours.

## Industrial Arts Education

I.A. 109 *Calculations*. Fundamental arithmetical processes applied to shop and engineering problems. Use of slide rule. Credit, 3 hours.

211 *Job Analysis*. Various steps in jobs and their relationship. Fee, \$4.00. One lecture, 3 hours laboratory. Credit, 2 hours.

212 *Curriculum Making*. Trade and technical material, tool processes, occupational information, and job analysis. Prerequisite: I.A. 211. Fee, \$4.00. One lecture, 3 hours laboratory. Credit, 2 hours.

257g *Supervision and Administration of Industrial Arts*. Shop organization and principles of supervision applied to shop classes. Classifications of tools, tool operations, and projects. Purchasing supplies and equipment. Prerequisite: I.A. 212. Fee, \$3.00. Credit, 3 hours.

299g *History of Industrial Arts Education.* Traces the history of the instruction and hand work in European countries and the United States. Attention is given to the various trends in the development of this instruction leading to contemporary practices in teaching of industrial arts subjects and vocational education. Fee, \$3.00. Three lectures. Credit, 3 hours.

310 *Seminar in Industrial Arts Education.* Problems in industrial arts education; architectural and orthographic projection drafting, aeronautics, mechanics, electricity and electronics, building and construction, and general industrial arts courses for the elementary, junior high schools and secondary schools. Fee, \$3.00. One lecture, 6 hours laboratory. Credit, 3 hours.

312 *General Industrial Arts Procedures.* Discussions on plant organization, shop planning, safety factors, and curriculum for the industrial arts in junior and senior high schools. Fee, \$3.00. Three lectures. Credit, 3 hours.

## Architecture

Arch. 100 *Introduction to Architecture.* A survey of architecture as human environment through consideration of contemporary building types. A survey of architecture as a profession, aims of architectural education and registration, relation of the architect to contemporary social and economic life. Fee, \$1.00. Credit, 2 hours.

110 *Descriptive Geometry, Shades, Shadows, Perspective.* Elements of architectural drafting, orthographic projection, sections, shades and shadows, theories of perspective. Fee, \$1.00. Six hours laboratory a week. Credit, 3 hours.

112 *Strength of Materials.* Basic materials of architectural construction are studied to develop theory of structural analysis through lectures and laboratory tests. Prerequisite: Math. 170. Fee, \$2.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

120 *Introduction to Design.* Fundamentals of architectural design and planning studied through a sequence of exercises in three dimensional form. Prerequisites: Arch. 100, 110. Fee, \$2.00. Six hours criticized work in studio. Credit, 3 hours.

121 *Architectural Design.* Planning and design of simple buildings with emphasis on structure, utility, and organization of space. Prerequisite: Arch. 120. Fee, \$2.00. Six hours criticized work in studio. Credit, 3 hours.

130 *Landscape Design.* A study of plant materials, especially those native to the Southwest and their composition with architectural forms. Fee, \$1.00. Four hours criticized work in studio. Credit, 2 hours.

140 *History of Architecture.* A study of the historic styles through Romanesque with emphasis on the effect of physical and sociological conditions in each period. Prerequisite: Arch. 100. Fee, \$1.00. Three lectures. Credit, 3 hours.

141 *History of Architecture.* Continuation of Arch. 140. Covering Gothic through 19th Century Architecture. Prerequisite: Arch. 140. Fee, \$1.00. Three lectures. Credit, 3 hours.

150 *Sketching and Rendering* Techniques for design studies and presentation drawings in black and white. Prerequisite: Arch. 110. Fee, \$2.00. Six hours criticized work in studio. Credit, 3 hours.

160 *Architectural Working Drawings.* Fundamentals of lettering, line work and conventions followed by a series of drawings of simple architectural details. Emphasis on neatness, clarity and organization. Prerequisite: Arch. 110. Fee, \$1.00. Four hours laboratory a week. Credit, 2 hours.

161 *Architectural Working Drawings.* Drafting technique and drafting room practices stressed in drawing of architectural details of increasing complexity. Materials and methods of architectural construction studied concurrently through lectures and films. Prerequisite: Arch. 160. Fee, \$3.00. Four hours laboratory a week. Credit, 2 hours.

190 *Specifications and Estimating.* Preparation and interpretation of architectural specifications, quantity surveys and cost estimates. Prerequisite: Arch. 160. Fee, \$2.00. Credit, 2 hours.

220 *Architectural Design.* Problems involving a more detailed study of the fundamental relations of materials, equipment, and construction in architectural design. Prerequisite: Arch. 121. Fee, \$5.00. Twelve hours criticized work in studio. Credit, 5 hours.

221 *Architectural Design.* Continuation of Arch. 220. Prerequisite: Arch. 220. Fee, \$5.00. Twelve hours criticized work in studio. Credit, 5 hours.

222 *Advanced Architectural Design.* Problems in advanced architectural design including community planning. Prerequisite: Arch. 221. Fee, \$3.00. Six hours criticized work in studio. Credit, 3 hours.

223 *Advanced Architectural Design.* Continuation of Arch. 222. Prerequisite: Arch. 222. Fee, \$3.00. Six hours criticized work in studio. Credit, 3 hours.

240 *Theory of Architecture.* A study of the various building types in contemporary architecture, their histories and significance. Prerequisite: Arch. 141. Fee, \$2.00. Credit, 2 hours.

241 *Theory of Architecture.* A continuation of Arch. 240. Prerequisite: Arch. 240. Fee, \$2.00. Credit, 2 hours.

250 *Architectural Sketching and Rendering.* Techniques for design studies and presentation drawings in color. Prerequisite: Arch. 150. Fee, \$4.00. Six hours laboratory a week. Credit, 3 hours.

260 *Architectural Working Drawings.* Continuation of Arch. 161. Examinations of plans and specifications of work already executed and inspection of buildings under construction. Prerequisite: Arch. 161. Fee, \$3.00. Four hours criticized work in studio. Credit, 2 hours.

**261 *Architectural Working Drawings.*** Continuation of Arch. 260. Preparation of complete architectural working drawings for a simple building. Prerequisite: Arch. 260. Fee, \$3.00. Four hours criticized work in studio. Credit, 2 hours.

**270 *Design and Planning in Wood.*** Application of the principles of structural analysis studied in prerequisite courses to the design of structural members of buildings in wood. Prerequisites: Math. 170; Arch. 112. Fee, \$2.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

**271 *Design and Planning in Steel.*** Application of the principles of structural analysis studied in prerequisite courses to the design of structural members of buildings in steel. Prerequisite: Arch. 270. Fee, \$2.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

**272 *Design and Planning in Concrete.*** Application of the principles of structural analysis studied in prerequisite courses to the design of structural members of building in concrete. Prerequisite: Arch. 271. Fee, \$2.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

# Statistics

## Summary of Registration 1953-54

Arizona State College at Tempe

### COLLEGE

#### *Resident Students — Regular Session*

	Freshmen	Sophomores	Juniors	Seniors	Graduates	Unclass.	Total	
Men .....	1192	537	476	430	453	5	3098	
Women ..	619	322	244	240	347	5	1777	
Total	1811	859	720	670	800	10		4875

#### *Extension Division*

##### *Residence Center Students — Regular Session*

Men .....	355
Women .....	595
Total .....	950

##### *Correspondence*

Men .....	60
Women .....	95
Total .....	155

##### *Summer Session 1953*

Men .....	1137
Women .....	921
Total .....	2058

##### *Total Registration in College*

Men .....	4650
Women .....	3388
Total .....	8038

##### *Counted More Than Once*

Men .....	631
Women .....	475
Total .....	1106

##### *Net Enrollment*

Men .....	4019
Women .....	2913
Total .....	6932

##### *Training Schools*

Boys .....	246
Girls .....	227
Total .....	473

**GRAND TOTAL** ..... 7405



## Summary of Graduates 1953-54

Total Graduates Through May 26, 1953 .....	10791
One, Two, and Three Year Diplomas:	
(Discontinued Commencement 1936) .....	3522
Earned Degrees:	
Bachelors	
Bachelor of Arts .....	229
Bachelor of Science .....	1551
Bachelor of Arts in Education .....	4715
Total .....	6495
Masters	
Master of Arts in Education .....	769
Total .....	769
Total Through May, 1952 .....	7264
Honorary Degrees:	
Master of Arts in Education .....	2
Doctor of Laws .....	3
Total .....	5
Total Degrees Granted Through May 26, 1953 .....	7269
Earned Degrees Granted May 25, 1954	
Bachelors	
Bachelor of Arts .....	53
Bachelor of Science .....	264
Bachelor of Arts in Education .....	312
Total .....	629
Masters	
Master of Arts in Education .....	150
Total .....	150
Doctors	
Doctor of Education .....	1
Total May, 1954 .....	780
Total Graduates Through May 26, 1953 .....	10791
One, Two, and Three Year Diplomas:	
(Discontinued Commencement 1936) .....	3522
Earned Degrees:	
Bachelors	
Bachelor of Arts .....	282
Bachelor of Science .....	1815
Bachelor of Arts in Education .....	5027
Total .....	7124
Masters	
Master of Arts in Education .....	919
Total .....	919
Doctors	
Doctor of Education .....	1
Total .....	1
Total Through May, 1954 .....	8044
Honorary Degrees:	
Master of Arts in Education .....	2
Doctor of Laws .....	3
Total .....	5
Total Degrees Granted Through May 25, 1954 .....	8049
Total Graduates Through May 25, 1954 .....	18840

# Gifts and Bequests

Public-spirited individuals in increasing numbers are making gifts of money or are bequeathing part or all of their estates to the educational institutions of their choice.

Arizona State College at Tempe is a growing, progressive institution, and the State of Arizona has not been able to care for some of its special needs. Individuals with money can make their influence felt with present and future generations of young people by making gifts or bequests to the College.

Some donors name the fund given for themselves, or for a wife, son, or daughter. An investment in growing personality is a long-time investment. Moreover, it pays large dividends, and these dividends continue long after the investor is gone.

The needs are many and urgent. The student loan fund is far too small. The College should have many more scholarships for worthy students. Funds for graduate fellowships, for research, and special projects are needed.

Approximately \$150,000 is needed to furnish and provide equipment for the Memorial Union Building. Help is needed to complete this major project which has, thus far, been so generously assisted by our students, alumni, faculty, parents, and friends. There are many other needs.

Gifts of books for the Matthews Library, of objets d'art for our growing collection, of special laboratory equipment, all will be most welcome.

It is suggested that those desiring to make such a gift or bequest to the College consult their attorney. A form for use in making such gift or bequest should approximate that shown below.

I, .....  
(Name)

of .....  
(Address)

do hereby give, devise, and bequeath to the Board of Regents of the University and State Colleges of Arizona, for use by the Arizona

State College at Tempe, Arizona, the sum of .....

.....dollars. This is to be known as the

.....Fund, and is

to be used as indicated below: .....

.....  
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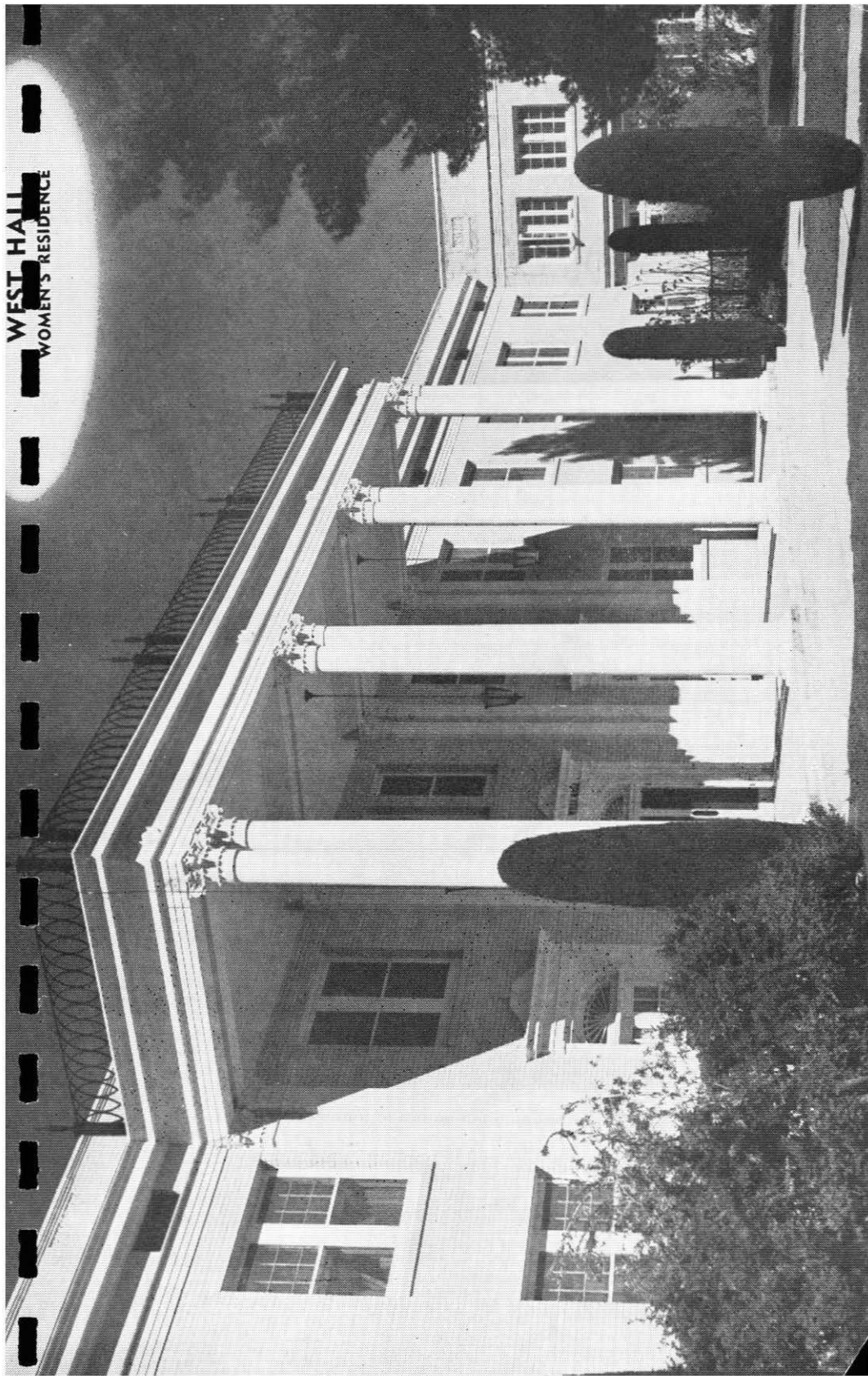
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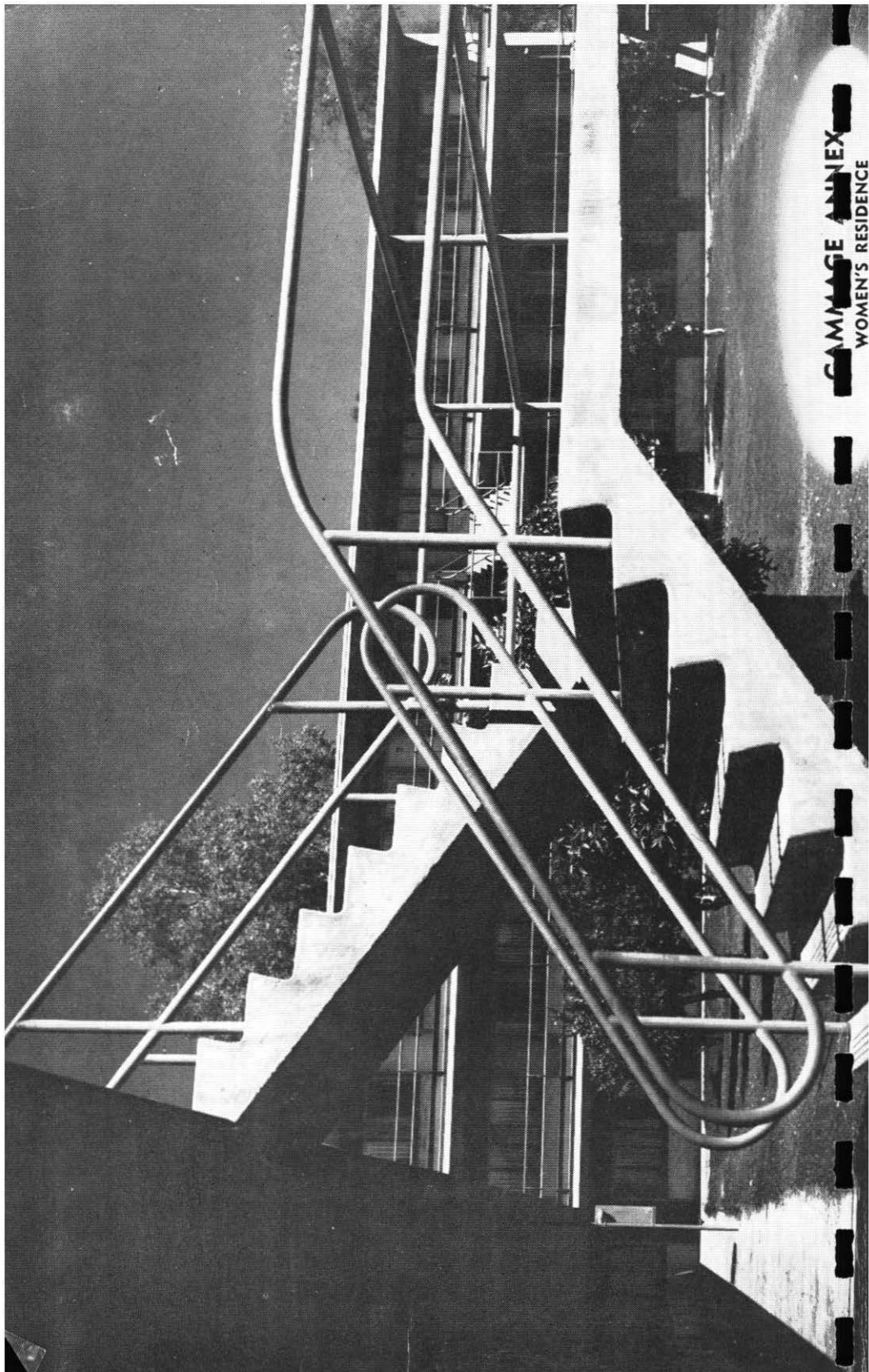


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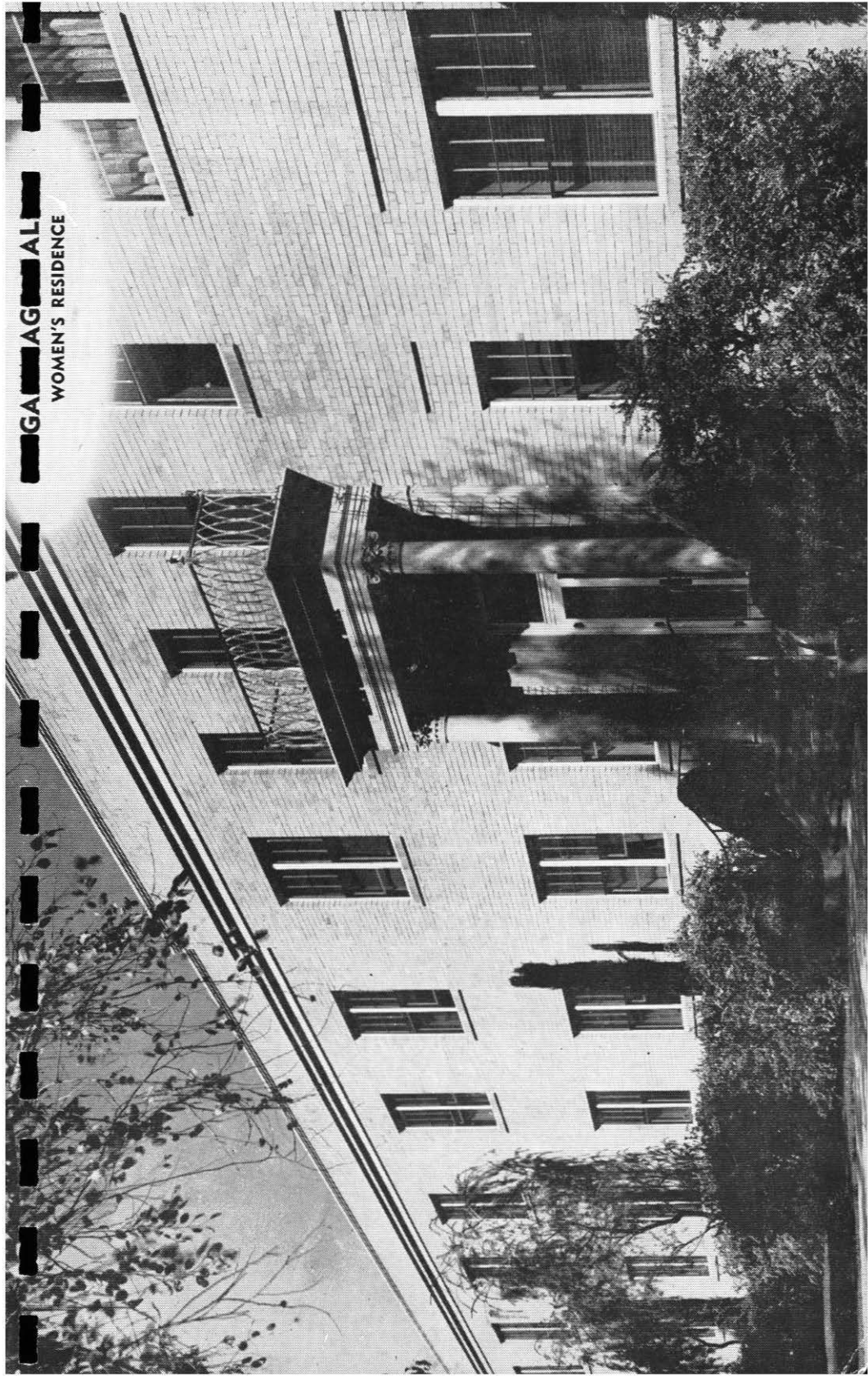
WEST HALL  
WOMEN'S RESIDENCE



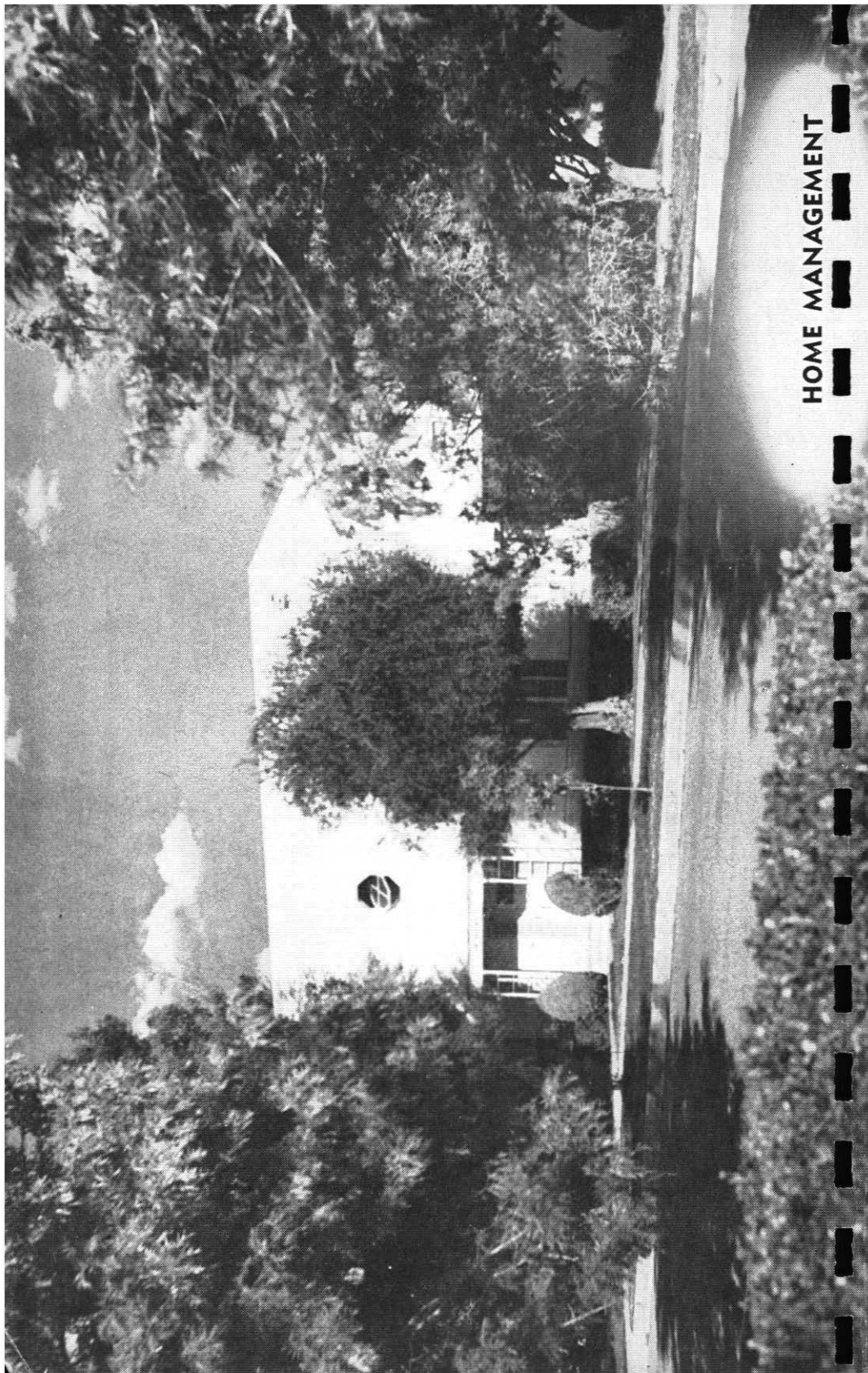


**CAMMAGE ANNEX**  
WOMEN'S RESIDENCE

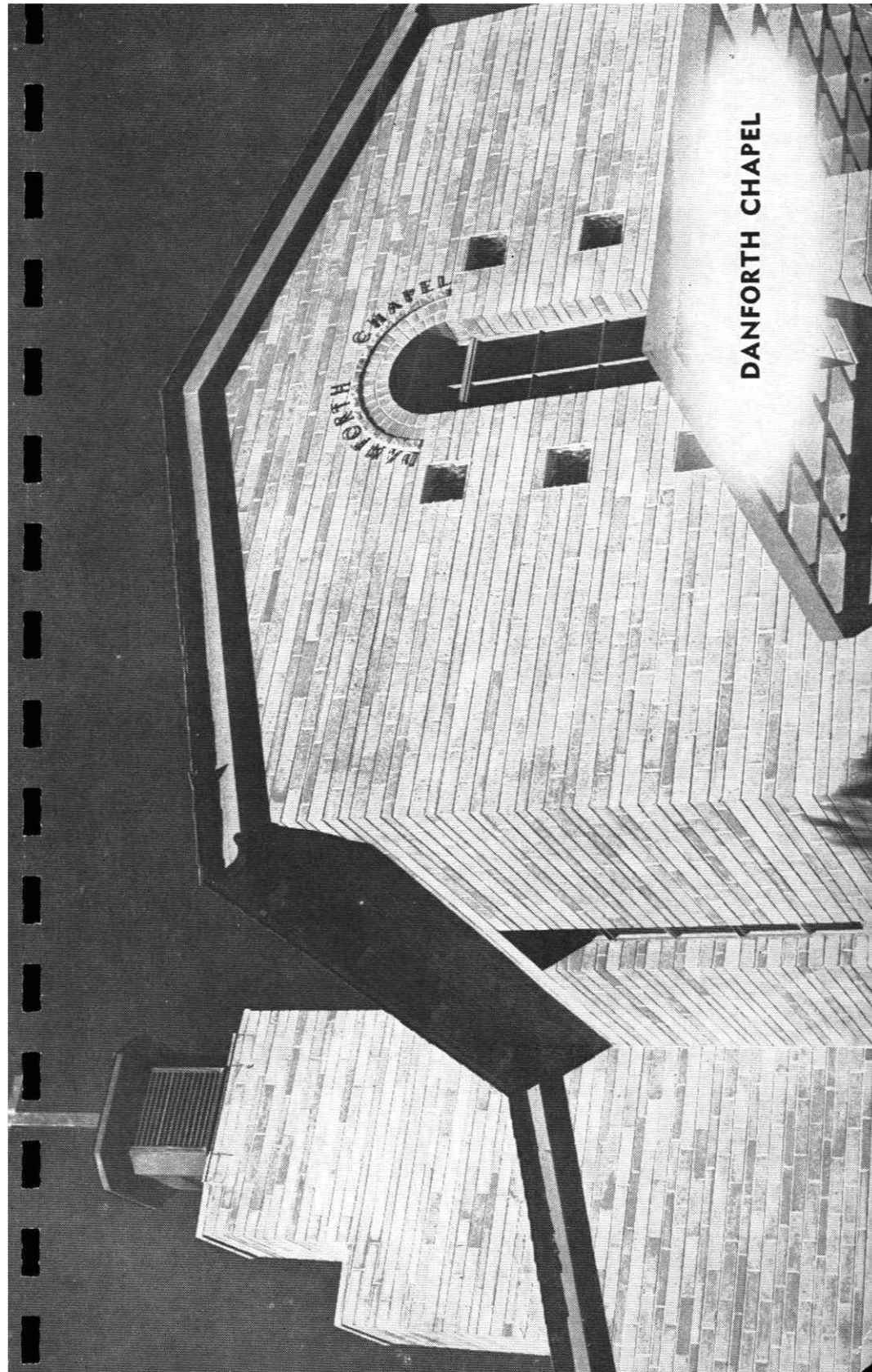
**GAGAN AL**  
WOMEN'S RESIDENCE







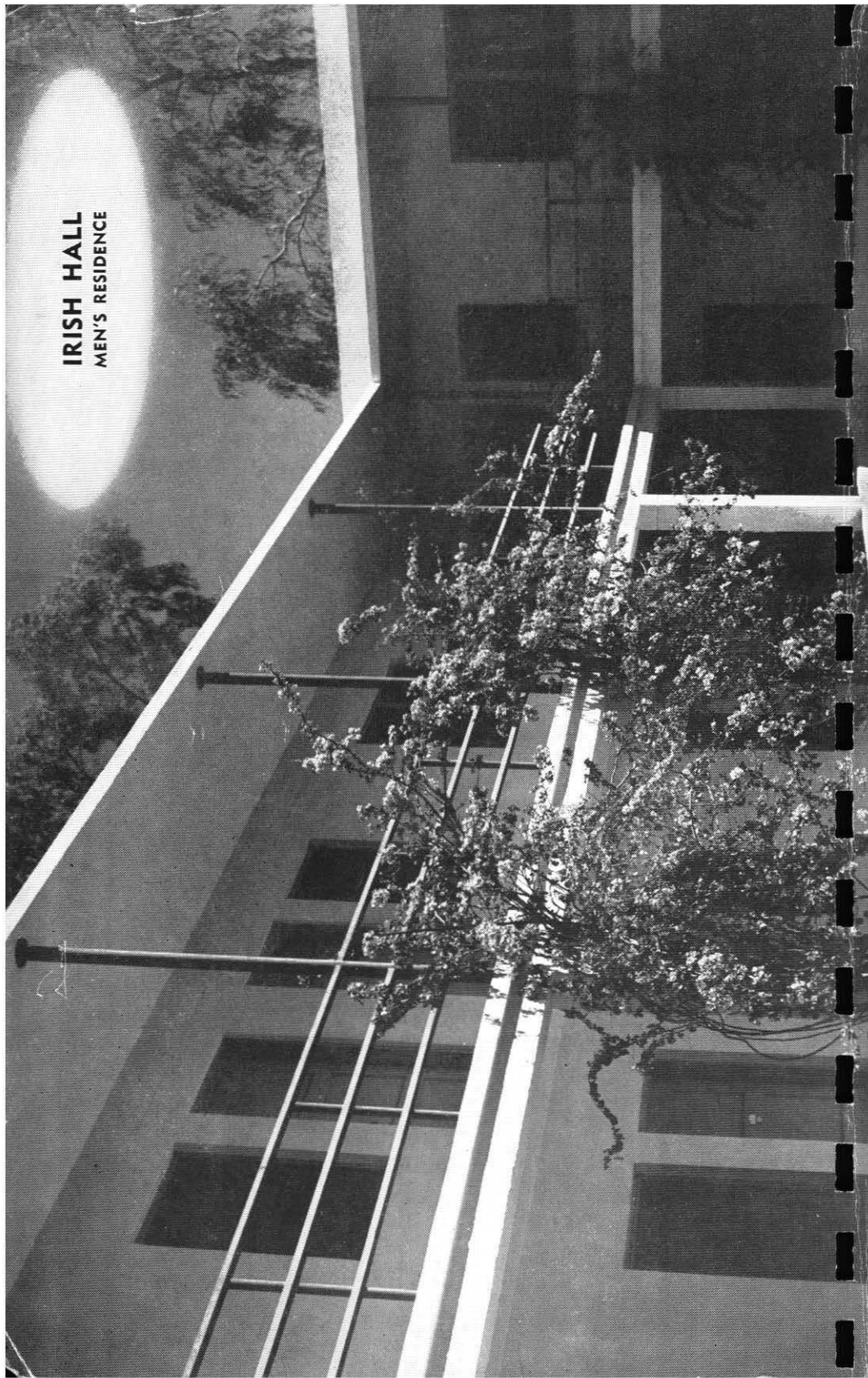
HOME MANAGEMENT



DANFORTH CHAPEL

DANFORTH CHAPEL

**IRISH HALL**  
**MEN'S RESIDENCE**





**HAYDEN HALL**  
MEN'S RESIDENCE

