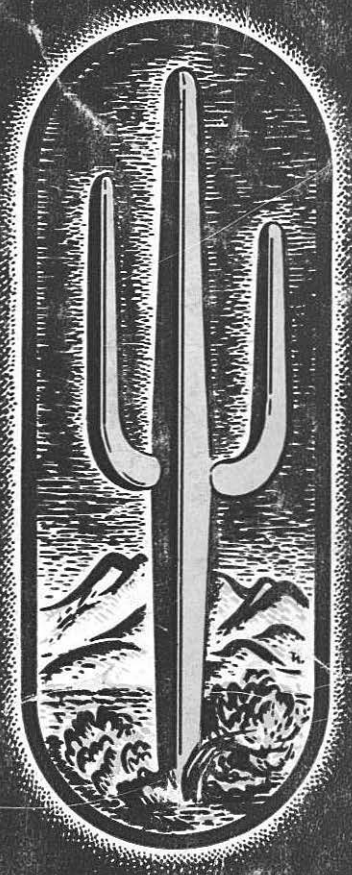


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MERRILL BEALE



BULLETIN

Arizona State  
College TEMPE  
ARIZONA

GENERAL SERIES

3408

JUNE, 1947

No. 63

## ACCELERATING!

1. AMER. ASSOC. OF TEACHERS COLLEGES - CLASS A.  
APRIL 18, 1929
2. NORTH CENTRAL ASSN. OF COLLEGES & SECONDARY  
SCHOOLS - APRIL 16, 1931 - CLASS A
3. AMER. ASSOC. OF TEACHERS COLLEGES FOR  
GRADUATE WORK - FEB. 18, 1942.

(INSTITUTIONAL MEMBERSHIP -  
AMER. COUNCIL OF EDUC.)

BULLETIN OF  
*Arizona State College*  
TEMPE, ARIZONA



●  
CATALOG ISSUE FOR THE YEAR 1947-48

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PUBLISHED SIX TIMES A YEAR, AND ENTERED AS SECOND-CLASS  
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ARIZONA, UNDER THE ACT OF AUGUST 24, 1912

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GENERAL SERIES JUNE, 1947 NUMBER 63

“Self-government and universal education are inseparable. The one can be exercised only as the other is enjoyed. The common school, the high school, and the university, should all be established, and are worthy of your fostering care. The first duty of the legislators of a free state is to make, as far as lies in their power, education free to all its citizens as the air they breathe.”

Governor John N. Goodwin in addressing the First Legislative Assembly, Territory of Arizona, September 30, 1864.

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# College Calendar, 1947-1948

## Fall Semester

Residence Halls and Dining Hall Open.....	Sept. 13, Sat.
Faculty Planning Conference .....	Sept. 11, 12, Thurs., Fri.
Freshman Week Events .....	Sept. 16, 17, 18, 19, 20
First Freshmen Assembly .....	Sept. 16, Tues., 8:30 a. m.
Registration .....	Sept. 19, 20, Fri., Sat.
Instruction Begins .....	Sept. 22, Mon.
Last Day of Registration for Credit .....	Oct. 6, Mon.
Armistice Day—No Classes .....	Nov. 11, Tues.
Deficient Scholarship Reports Due.....	Nov. 14, Fri.
Thanksgiving Recess .....	Nov. 26, Wed., 5:00 P.M. to Dec. 1, Mon., 8:00 A.M.
Christmas Vacation .....	Dec. 20, Sat. Noon to Jan. 5, Mon., 8:00 A.M.
Final Examinations .....	Jan. 26, 27, 28, 29. Mon., Tues., Wed., Thurs.

## Spring Semester

Residence Halls Open to New Students.....	Jan. 31, Sat.
Registration .....	Feb. 2, 3, Mon., Tues.
Instruction Begins, Second Semester .....	Feb. 4, Wed.
Last Day of Registration for Credit .....	Feb. 16, Mon.
Deficient Scholarship Reports Due .....	Mar. 26, Fri.
Easter Vacation .....	Mar. 25, Thurs., 5:00 P.M. to Mar. 29, Mon., 8:00 A.M.
Senior Scholarship Reports Due .....	May 17, Mon. Noon
Graduate Scholarship Reports Due.....	May 19, Wed. Noon
Last Meeting of Graduate Classes .....	May 22, Sat.
Baccalaureate Service .....	May 23, Sun.
Commencement Exercises .....	May 26, Wed.
Final Examinations .....	May 24, 25, 26, 27, 28, Mon., Tues., Wed., Thurs., Fri.

## Summer Session

Summer Session Begin, Registration .....	June 7, Mon.
First Summer Term Ends .....	July 10, Sat.
Second Summer Term Begins, Registration.....	July 12, Mon.
Summer Session Ends .....	Aug. 14, Sat.





## Officers of Instruction

---

- GAMMAGE, GRADY - - - - - President of the College  
B.A., M.A., LL.D., University of Arizona; Ed.D., New York University
- ALLDRFDGL, MILES I. - - - - - Instructor in Commerce  
M.A. in Education Arizona State College at Tempe.
- ANDERSON, C. M. - - - - - Instructor in Foreign Languages  
B.A., B.T., Eastern Theological Seminary; M.A., Arizona State College at Tempe
- AUTENRIETH, BERTHA H. - - - - - Instructor in Music  
B.M. New England Conservatory; M.A., University of Michigan.
- BALL, RACHEL STUTSMAN - - - - - Associate Professor of Psychology  
Ph.D., University of Chicago.
- BARKLEY, BESS - - - - - Associate Professor of Music  
B.A., University of Arizona
- BATCHELOR, H. W. - - - - - Assistant Professor of Library Science  
B.A., University of Oregon; B.S., M.S. in L.S., University of Illinois
- BATEMAN, GEORGE M. - - - - - Professor of Chemistry  
Head of the Science Department  
B.A., Utah State Agricultural College; M.S., Ph.D., Cornell University
- BAYLESS, H. R. - - - - - Instructor in Industrial Arts  
B.A. in Ed., Arizona State College at Tempe.
- BENEDICT, JOEL A. - - - - - Director of Visual Education  
B.A. in Ed., M.A. in Ed., Arizona State College at Tempe.
- BRATCHER, AUSTIN S. - - - - - Associate Professor of Commerce  
B.A., Trinity University; M.A., University of Texas; M. B. A., University of Texas.
- BROWN, ROBERT NEWTON - - - - - Teacher Training, Eighth Grade  
B.A., Colorado State College of Education
- BUCKLEY, FRANK M. - - - - - Instructor in English  
B.A., Holy Cross College; M.A., Boston College.
- BULLOCK, ARNOLD - - - - - Instructor in Music  
Mus. B., Yale University; M.A., Arizona State College at Tempe
- BUNTE, MARY L. - - - - - Instructor in Commerce  
B.A. in Ed., Arizona State College at Flagstaff; M.A., Arizona State College at Tempe.
- BURKE, DONNA BOYLE - - - - - Assistant Professor of English  
B.A., M.A., University of Michigan.
- BURKHARD, SAMUEL - - - - - Professor of Education  
Head of the Department  
B.A., Goshen College; M.A., Columbia University; Ph.D., New York University
- BURTON, A. R. - - - - - Associate Professor of Commerce  
B.S., M.S., Kansas State Teachers College; Ph.D., University of Nebraska, C.P.A., Arizona
- BUTLER, KENNETH O. - - - - - Instructor in Industrial Arts  
B.A. in Ed., Arizona State College at Tempe.
- BYERS, FRANK R. - - - - - Associate Professor of English  
B.A., M.A., University of Cincinnati.
- CASSITY, FRANCES PERRY - - - - - Teacher Training, Kindergarten  
B.A. in Ed., M.A. in Ed., Arizona State College at Tempe.

- CAVALLIERE, WILLIAM A. - - - - Instructor in Industrial Arts  
B.A. in Ed., Arizona State College at Tempe.
- CHASE, VERA A. - - - - - Teacher Training, Fourth Grade  
B.A., M.A., University of Southern California
- COOL, DWIGHT W. - - - - - Teacher Training, Sixth Grade  
B.A., University of Colorado; M.A., Colorado State College of Education
- DARDEN, ANNA BELLE - - - - Teacher Training, First Grade  
B.A. in Ed., Arizona State College at Tempe.
- DARDEN, BYRNS L. - - - - - Teacher Training, Industrial Arts  
B.A. in Ed., M.A. in Ed., Arizona State College at Tempe.
- DAVIES, MADOC W. - - - - - Instructor in English  
B.A. in Ed., M.A. in Ed., Arizona State College at Tempe.
- DOHERTY, EDWARD A. - - - - - Head Football Coach  
B.A., Boston College.
- DRESSKELL, MILES A. - - - - Associate Professor of Music  
A.B., San Jose State College; B.M., Northwestern University; M.A.,  
Columbia University
- DRESSKELL, NADINE - - - - - Instructor in Piano  
B.S., Bowling Green State University; M.A., Columbia University.
- EDMONDSON, E. L. - - - - - Dean of Men  
B.S., Southern Illinois Normal University; M.S., Ph.D., Northwestern  
University; O.T.D., Western College; Med. Sc.D., Southern University.
- ELLIFF, ROWAN E. - - - - Associate Professor of Home Economics  
B.A., Kansas State Teachers College, Pittsburgh; M.A., University of  
Missouri
- ELLWORTH, LOLA - - - - Assistant Professor of Home Economics  
B.S., Brigham Young University; M.A., Teachers College, Columbia  
University
- ESSIG, MARY - - - - - Instructor in Home Economics  
B.S., University of Missouri; M.E., Colorado A. & M.
- EVANS, JEANNE - - - - - Instructor in Physical Education  
B.A. in Education, Arizona State College at Tempe.
- FULLER, GERALD R. - - - - - Instructor in Agriculture  
B.S., University of Arizona; M.S., Agricultural and Mechanical Col-  
lege of Texas.
- GILLANDERS, DOROTHY F. Asst. Professor of Physical Education  
B.S., Oregon State College; M.A., Teachers College, Columbia Uni-  
versity; Registered Physical Therapist, Walter Reed Hospital.
- GIRDLER, JOHN - - - - - Instructor in English  
B.A., LL.B., University of Colorado; M.A., University of Southern  
California.
- GRAF, WILLIAM - - - - Assistant Professor of Biological Science  
B.S., M.A., Ph.D., Oregon State College.
- GRIMES, JOHN O. Dean of the College; Director of Summer Session;  
Professor of Psychology.  
B.S., Ohio University; M.A., Ph.D., University of Michigan.
- GURNEE, HERBERT - - - - Professor of Psychology  
B.A., M.A., Wesleyan University; Ph.D., Harvard University
- HARELSON, HARRY B. - - - - Associate Professor of Music  
Head of the Department  
B.Pub.Sch.Mus., M.Mus., Columbia School of Music

OFFICERS OF INSTRUCTION

9

- HARGISS, GENEVIEVE - - - Assistant Professor of Music  
B.M.E., B.Mus., M.M.E., University of Kansas
- HARTER, TOM J. - - - Assistant Professor of Art  
P.A. in Ed., Arizona State College at Tempe; M.F.A., University of Oregon.
- HELBING, ALBERT T. - - - Associate Professor of Commerce  
Ph.B., Denison University; Ph.D., Johns Hopkins University.
- HILKERT, E. J. Professor of Commerce and Head of the Department  
B.S. in Bus. Admin., M.A., University of Southern California; LL.B., University of Notre Dame; C.P.A., Arizona and California.
- HOMAN, FAITH D. - - - Instructor in Foreign Languages  
B.S., Lewis Institute; M.A., Northwestern University.
- JUDD, B. IRA - - - Professor of Agriculture  
Head of the Department  
B.S., M.S., Utah State Agricultural College; Ph.D., University of Nebraska
- KAJIKAWA, WILLIAM - - - Assistant in Physical Education  
B.A. in Ed., Arizona State College, Tempe.
- KEITH, MARLOW - - - Instructor in Industrial Arts  
B.A. in Ed., Arizona State College at Tempe.
- KINZLE, DONN E. - - - Instructor in Physical Education  
B.A. in Ed., Arizona State College at Tempe.
- KLANN, MARGARET L. - - - Instructor in Physical Education  
B.S. in Education, University of Illinois; M.A., Colorado State College of Education
- KLOSTER, PAULA R. - - - Associate Professor of Art  
Head of the Department  
B.S., University of North Dakota; M.A., Stanford University
- KRANKEL, JOHN H. - - - Associate Professor of Social Studies  
B.S., University of Illinois, M.A., Claremont College; Ph.D., University of Illinois.
- KRUMBOLTZ, ORUS F. - - - Assistant Professor of Science  
B.S., Iowa State; M.S., George Washington University; Ph.D., University of Chicago.
- LAING, C. W. - - - Instructor in Industrial Arts  
B.A. in Ed., M.A. in Ed., Arizona State College at Tempe.
- LARMORE, LEWIS - - - Assistant Professor of Physics  
B.A., M.A. (Physics), M.A. (Astronomy), Indiana University.
- LAVIK, RUDOLF H. - - - Associate Professor  
of Physical Education, Head of the Department  
B.A., Concordia College; B.P.E., Springfield College; M.A., University of Southern California.
- LEIFESTE, BERTHA V. - - - Associate Professor of Education  
B.A. Southwest Texas State Teachers College; M.A., Teachers College, Columbia University; Ph.D., University of Pittsburgh.
- LYND, LOUISE B. - - - Principal, Rural Training School  
B.S., Columbia University
- LYON, ROBERT B. - - - Associate Professor of Mathematics  
B.S., B.Mus., University of Illinois; M.S., University of Idaho
- MARTZ, ROLAND W. - - - Instructor in Industrial Arts  
B.A. in Ed., Arizona State College at Tempe.

- MAUGHAN, REESE Chief Appraiser in the Veterans Guidance Center  
B.S., Utah State Agricultural College; M.A., Stanford University;  
Ed.D., University of Cincinnati.
- MAX, WARREN L. - - - - - Instructor in Commerce  
B.A. in Ed., Arizona State College at Flagstaff; M.A., Stanford University.
- MCCLEARY, JAMES A. - - - - - Instructor in Botany  
B.A., Asbury College; M.A., Ohio University.
- MCCLURE, THELMA F. - - - - - Instructor in Home Economics  
B.S., M.S., Kansas State Agricultural College.
- MCKEMY, H. M. - - - - - Superintendent of Grade Schools  
B.S., University of Arizona; M.S., University of Southern California.
- MCKERNAN, FELIX E. - - - - - Band Leader and Instructor in Music  
B.A., University of Miami; M.M., University of Michigan.
- MCKINNON, ANNA MARY - - - - - Instructor in Commerce  
B.S., University of Illinois; M.B.A. Northwestern University.
- MENKE, ROBERT F. - - - - - Assistant Professor of Education  
B.S., Oshkosh State Teachers College; M.A., Northwestern University.
- MERRITT, CHARLES - - - - - Instructor in Industrial Arts  
B.A. in Ed., Arizona State College at Tempe.
- MILLER, PAUL THEODORE - - - - - Associate Professor of  
Geography and Geology  
A.B., Simpson College; M.S., Ph.D., University of Iowa.
- MORTENSEN, MARTIN - - - - - Assistant Professor  
of Botany and Agriculture  
B.A., Brigham Young University; M.A., University of Arizona
- MURPHY, NINA L. - - - - - Associate Professor  
of Physical Education  
B.A., University of Arizona; M.A., University of Southern California
- MYERS, LOUIS, M. - - - - - Professor of English  
Head of the Department  
B.A., St. Stephens College; M.A., Columbia University; Ph.D., University of California
- NEEB, LOUIS S. - - - - - Associate Professor of Industrial Arts  
Head of the Department  
B.A., M.A., University of Arizona
- ONOFRIO, ALBERT J. - - - - - Instructor in Physical Education  
B.A. in Ed., Arizona State College at Tempe.
- OSENBERG, FREDERIC C. - - - - - Assistant Professor of English  
B.A., M.A., University of Michigan; Ph.D., University of Illinois.
- PAYNE, IRA DAWSON Director of Teacher Training and Placement  
Professor of Education
- PILCHER, EDITH BLANCHE - - - - - Associate Professor of English  
B.A., University of Kansas; M.A., Columbia University
- PLOCK, EDNA L. - - - - - Instructor in Physical Education  
B.S., M.A., Ohio State University.
- PORTNOFF, COLLICE H. - - - - - Associate Professor of English  
B.A., M.A., University of California; Ph.D., Stanford University;  
F.A.A.R., M.A., American Academy in Rome.

- PORTNOFF, GEORGE E. - - - - - Professor of Languages  
Head of the Department  
A.B., Kiev Gymnasium, Russia; A.M., Ph.D., Columbia University
- QUAID, HAZEL HARVEY - - - - - Assistant Professor of Music  
B.A. in Ed., Arizona State College at Tempe; M. A. in Mus. Ed., North-  
western University.
- QUINN, WILLIAM - - - - - Assistant Coach  
B.A., Boston College.
- RAHN, JOHN F. - - - - - Instructor in Music  
B.S., Michigan State Normal College; M.M., University of Southern  
California.
- RANNELLS, JESSIE M. - - - - - Professor of Home Economics  
Head of the Department  
B.S., Iowa State College; M.S., Cornell University; Ph.D., University of  
Wisconsin
- REID, BARNEY M. - - - - - Instructor in Art  
B.C.A., Woodbury College; B.A. in Ed., Arizona State College at  
Tempe; M.A., State University of Iowa.
- RICE, ROY C. - - - - - Associate Professor of Education  
B.S., University of New Mexico; M.S., Massachusetts State College;  
Ph.D., University of Texas.
- RICHARDSON, HAROLD D. - - - - - Registrar; Director of Graduate  
Division; Professor of Education  
Ph.B., Ph.M., University of Wisconsin; Ph.D., Northwestern University
- ROBINSON, DOROTHY F. - - - - - Teacher Training, Fifth Grade  
B.A., M.A., University of Southern California
- SANDERSON, R. PHILLIPS - - - - - Instructor in Art  
School of the Art Institute of Chicago; Kansas City Art Institute.
- SAYRE, MILDRED B. - - - - - Dean of Women; Counseling  
B.S., Ph.M., University of Wisconsin
- SCHILLING, DOROTHY C. - - - - - Professor of English  
B.A., M.A., Ph.D., Stanford University
- SHIRLEY, J. C. - - - - - Instructor in Foreign Languages  
B.A., Stanford University.
- SKINNER, H. CLAY - - - - - Professor of Psychology  
Head of the Department  
B.S. in Ed., Ohio University; M.A., Ohio State University; Ph.D., New  
York University
- SHEPPARD, GEORGE L. - - - - - Instructor in Commerce  
B.S., M.A., Brigham Young University; B.C.S., Southeastern Univer-  
sity.
- SMITH, SYDNEY RUSSELL - - - - - Instructor in Psychology  
B.A., M.A., University of California.
- SOUTHERN, CLARENCE EDWARD - - - - - Associate Professor  
of English  
B.A., Evansville College; M.A., Stanford University
- STAHNKE, HERBERT L. - - - - - Professor of Zoological Science;  
Director, Poisonous Animals Research Laboratory  
A.A., La Grange College; B.S., University of Chicago; M.S., University  
of Arizona; Ph.D., Iowa State College.
- STRAUSBAUGH, W. L. - - - - - Assistant Professor of English  
B.S., Wooster College; M.A., University of Iowa.

- THOMSON, RONALD G. - - - - Instructor in Physical Education  
B.S., Springfield College.
- THORPE, THOMAS E. - - - - - Assistant in Science  
B.A. in Ed., Arizona State College at Tempe.
- TILDEN, ARNOLD - - - - Professor of Social Studies  
B.A., M.A., DePauw University; Ph.D., University of Southern California.
- TURNER, KATHARINE C. - - - Assistant Professor of English  
B.Ed., Illinois State Normal University; M.A., Ph.D., University of Michigan.
- VAN PETTEN, DONALD R. - - - - Associate Professor  
of Social Studies  
B.A., Arizona State College at Tempe; M.S., University of Southern California; Ph.D., Stanford University
- WELLS, MINNIE SEAVER - - - - - Teacher Training  
Second and Third Grades  
B.A. in Ed., M.A. in Ed., Arizona State College at Tempe.
- WEINACKER, FRA SAMUELS - - Supervisor, Elementary Teaching  
in Phoenix  
A.B., Iowa State Teachers College; M.A., University of Iowa
- WEXLER, CHARLES - - - - - Professor of Mathematics  
Head of the Department  
B.S., M.S., Ph.D., Harvard University
- \*WILLIAMS, O. O. - - - - - Special Lecturer in Health  
and Medical Technology  
B.S., M.D., Vanderbilt University.
- WILSON, IRMA - - - - - Associate Professor of Spanish  
B.A., State University of Montana; M.A., Ph.D., Columbia University
- WOOLUM, HOWARD PRESTON Principal of Campus Training School  
B.A., M.A., Colorado State College of Education.
- WYLLYS, RUFUS KAY - - - - - Professor of Social Studies  
Head of the Department  
B.A., M.A., University of Michigan; Ph.D., University of California; Litt.D., Hillsdale College
- YATES, GEORGE C. - - - - - Associate Professor of English  
B.J., M.S., University of Missouri.
- YOUNG, GEORGE P. - - - Assistant Appraiser in the Veterans  
Guidance Center  
B.A., Colorado State College; M.A., University of Colorado; Ph.D., Yale University.
- ZACHER, OLENE CLOWER - - - - - Instructor in Mathematics  
B.A., M.A., University of Alabama.
- ZACHER, ROBERT V. - - - - - Instructor in Commerce  
B.S., M.S., University of Alabama.
- ZIMMERMAN, J. E. - - - - - Assistant Professor of English  
B.A., M.A., Baylor University.  
\*Medical Technology at St. Joseph's Hospital.

## Assistants in Administration

---

ANDERSON, JOHN L. - - - Supervisor of Business Methods  
ASHLEY, ALETHA - - - Assistant to the Registrar  
ATKINSON, A.A., D.Sc. - - - Executive Adviser  
BARNES, LEONA - - Stenographer in the Registrar's Office  
BELTZ, VICTOR V. - - - Office Manager and Accountant  
in the Business Office  
BOWEN, JEANNE - - - Assistant in Registrar's Office  
BRAWNER, FRANCES - - - Recorder in the Registrar's Office  
BROWN, EDNA L. - - - Claims Clerk in the Business Office  
BUCKLEY, FRANK M., M.A. Head Resident in Irish Hall, Unit B  
BUNTE, MARY L. M.A. - - - Secretary to the President  
CALLOWAY, ARTHUR L. - - - Veterans' Adviser  
in the Registrar's Office  
CAWDREY, MARJORIE E., B.A. - - - Director of Housing  
CRUMBAKER, J. W., B.S. - - - Farm Manager  
DART, LUCILLE M., B.A. - Stenographer in the Business Office  
DEN HARTOG, ESTHER - - - Head Resident in Alpha Hall  
DOBBS, LAURA - - - Assistant in the Business Office  
DUBLIN, ARLENE F. - - - Clerk in the Mimeograph Office  
FILBY, ELECTRA - - - Secretary in the Placement Office  
FRIDAY, ROY REINER - - - Assistant in the Business Office  
GREEN, MAVIS, A., B.A. - Claims Clerk in the Business Office  
HALL, MARTHA J., B.A. - - - Head Resident in South Hall  
HARDAWAY, SYLVIA S. - - - Assistant in Library  
HARRIS, FENN - Superintendent of Buildings and Grounds  
HAYDEN, SALLIE DAVIS - - Head Resident in Matthews Hall  
HENDRIXSON, MARY ELAINE, M. N., R.N. Director of Student  
Health Service  
HENRIE, WILLIAM - - - Supervisor of Janitors  
HEWETTE, ALTADENA - - - Assistant in Audio-Visual Aids  
HIGHT, DORIS Stenographer in the Division of Student Affairs  
HILL, LOUISE C., M.A. - - - Desk Clerk in the Library  
JONES, ELIZABETH - - - Assistant in the Registrar's Office  
KEMP, FRANCES J. - - - Head Resident in North Hall  
KEMP, PATRICIA - - - Clerk in the Library  
KINSEY, F. JEAN - - - Assistant in the Registrar's Office  
LILICO, THOMAS B., B.A. - - - Graduate Manager  
LOWE, HELEN M., B.S. - - - Public Service Librarian  
LOWTHER, RUTH, B. S. - - Head Resident in Gammage Hall  
MAUGHAN, EDNA - Psychometrist in the Veteran's Guidance  
Center

MAUGHAN, SHIRLEY - - - - - Assistant Psychometrist  
   in the Veteran's Guidance Center  
 MAY, SIBYL S. - - Purchasing Agent in the Business Office  
 MAYES, JOANNA - - - - - Assistant in Registrar's Office  
 MENKE, MARGARET J. - Secretary to the Dean of the College  
 MORRELL, GEORGE, B.A. - - - - - Purchasing Agent  
 MCCLAIN, JUNE - - - - - Stenographer in Registrar's Office  
 NERI, CHARLES - - - - - Manager of the Bookstore  
 OSENBURG, FREDRICK C., Ph.D. Head Resident in Green Gables  
 OVERTON, ISABEL - - - - - Secretary in the Library  
 PEPPLER, JANE - - - - - Secretary, Health Service  
 PHILLIPS, VERLA H. - - - - - Secretary, Division of Special  
   Services  
 PICERNO, THERESA E. - - - - - Telephone Operator  
 REED, RUTH E., B.S. - - - - - Supervisor of the Dining Hall  
 REAY, PEGGY L., B.S. - - Director of Student Employment  
 RHOTON, DREW - - - - - Cashier  
 SHAFFER, W. GLEN, B.S. - - - - - Cataloger  
 SOUTHERN, C. E. - - Head Resident in Stadium Dormitory  
 SVARPA, GENEVIEVE, B.S. - - - Assistant to the Supervisor  
   of the Dining Hall  
 THOMAS, ALFRED, M.A. - - - - - Assistant Registrar  
 WALSH, MARGARET M., B.A. - - Head Resident in West Hall  
 WESTERVELT, M. M., M.D. - - - - - Physician  
 WHITWELL, DORIS MARCIA - - - - - Assistant in Library  
 WILSON, DOROTHY, M. - - - - - Secretary in the Division  
   of Student Affairs  
 WISE, MARJORIE - - - - - Secretary, Graduate Manager  
   and Department of Physical Education for Men  
 WOODS, ANN SHUMWAY - Assistant in the Registrar's Office  
 WRIGHT, J. ELINOR - - - - - Assistant in the Dining Hall  
 YATES, GEORGE C., M.S., - Head Resident in Irish Hall, Unit A  
 ZUROFF, BERTHA - - - - - Payroll Clerk

## Assistants in Maintenance Department

JUDD, O. W.  
           Engineer

MCGINNIS, CHARLES  
           Watchman

RANNOV, WILLIAM F.  
           Electrician

SVOB, ROBERT  
           Gardener



# The Institution

## Purposes of the College

The College aims to serve the people of Arizona by providing an educational program that appropriately reflects the community interests of the people of the State as a whole as well as the needs and desires of the individual students who enroll. Institutional objectives that define and give direction to the educational program of the College are the result of the growth and evolution of the institution over a period of more than fifty years.

The Act of the Territorial Legislature, passed March 12, 1885, creating the Territorial Normal School, set forth its objectives as follows:

"the instruction of persons, both male and female, in the art of teaching and in all the various branches that pertain to a good common school education (the term, "common schools," is now quite generally used as an expression implying a general reference to both elementary and secondary schools); also, to give instruction in the mechanical arts and in husbandry and agricultural chemistry, in the fundamental law of the United States, and in what regards the rights and duties of citizens . . ."

The Act also set forth in the requirements for admission and elsewhere other important objectives as follows:

"Every applicant for admission shall undergo an examination in such manner as shall be prescribed by the Board, and if it shall appear that the applicant is not a person of good moral character, and will not make an apt and good teacher, such applicant shall be rejected. The Board of Education may, in their discretion, require any applicant for admission, to sign . . . a declaration of intention to follow the business of teaching . . . and provided further, that the pupil may be admitted without signing such declaration of intention on such terms as the Normal School Board may require or prescribe . . . shall exercise a watchful guardianship over the morals of the pupils . . ., but no religious or sectarian tests shall be applied . . ."

Thus, it may be observed, the founders of the institution set forth the following five objectives: (1) preparation of teachers, the chief purpose; (2) provision for a broad curriculum; (3) development of ethical character; (4) obligatory instruction in fields other than teaching; (5) training for good citizenship.

It is this set of broad purposes, so wisely stated by the founders of the institution, that has served to project the growth and development of the College. Of course, during the more than sixty years of progress, there have been certain changes in emphasis placed on the

various objectives. At the present time, institutional purposes and objectives may be set forth as follows:

Traditionally, and by legal definition, the College has for its first purpose the selection and preparation of teachers for the elementary and secondary schools of Arizona. The people of the State have a right to expect that their children in the public schools will be taught by teachers possessing high mentality, broad social cultural background of general education, high ideals of citizenship, thorough knowledge of subject matter, high scholarship, objective and scientific point of view, professional training and spirit, proven skill in the art of teaching, culture and efficiency in social relations, wholesome personality, vigorous health, and sound character. The College aims to serve in the selection, development, and preparation of teachers of this type.

It is the purpose of the College to provide a basic program of general education. Provision for a broad social cultural base is not only highly essential in teacher education, but also in educational programs for other professions. Objectives related to good citizenship, personal efficiency, aesthetic appreciation, general knowledge, and vigorous health are, after all, fundamental and basic in higher education. And since the College must provide a basic offering of general background courses as an inherent part of its teacher education program, it is able to serve efficiently and well students desiring basic preprofessional work in certain other fields. In fact, the College, through its regular program of general education, serves many other students whose expressed needs and desires are for preparation in fields other than teaching. The fields of agriculture, science, industrial arts, commerce, music, and home economics are representative examples.

The College accepts its responsibility for providing in service help, guidance, and instruction for teachers. It also accepts its responsibility for cultural and educational leadership and service in the community. These professional and community services are provided through special evening courses, correspondence courses, summer sessions, educational conferences, dramatic performances, musical concerts, speech clinic services, published bulletins, radio services, placement services, alumni organizations, school visitation, and speaker and consultant service.

Through its carefully organized program of higher education—both general and specialized and through its provision for these related extension services, Arizona State College at Tempe takes its place along with the other state institutions of higher learning in serving the people of Arizona.

## History

An act of the Thirteenth Legislative Assembly of the Territory of Arizona, approved March 12, 1885, made provision for the establishment at Tempe of a Normal School. The Normal began on February 8, 1886, with thirty one in attendance. The first class of five members graduated in June, 1887. At that time the entire institution was housed in the northwest room of a single four room one story building. During the years which followed, the attendance gradually increased, and with the growing public interest, the course of instruction was expanded year by year, new buildings replaced the historical structure, and from time to time additions were made to the faculty personnel.

For many years it was found necessary to provide facilities for high school training preparatory to the two-year normal school course, but, by the year 1919, the growth of the high schools throughout the state had made it possible to eliminate the high school curriculum from the program of studies offered by the Normal School, and the entire attention of the faculty was devoted to the two year normal school curriculum offered to high school graduates and leading to a diploma entitling the holder to teach in the elementary schools and the junior high schools of the state.

In 1922 the Tempe Normal School Alumni Association sponsored a movement to raise the grade of their Alma Mater to that of a standard Teachers College. After three years of public discussion, in January, 1925, a bill was presented to the Seventh State Legislature which was passed unanimously by that body and signed by Governor Geo. W. P. Hunt on March 7, 1925. By the provisions of this bill, the Tempe Normal School became Tempe State Teachers College, with the power to establish a four-year college curriculum, and the authority to confer upon its graduates the degree of Bachelor of Education.

An act of the Ninth Legislature changed the name of the college to read, Arizona State Teachers College at Tempe, and at the same time authorized the College to grant the degree of Bachelor of Arts in Education.

In March, 1937, an Act of the Thirteenth Legislature authorized the College to grant the advanced degree of Master of Arts in Education. This degree was conferred for the first time on May 31, 1938.

On March 9, 1945, a bill was passed by the State Legislature changing the name of the College to ARIZONA STATE COLLEGE AT TEMPE, and placing the management of all three state educational institutions under the control of one board called the Board

of Regents of the University and State Colleges of Arizona. Each institution retains its identity. The Board of Regents has broad powers. It may "establish curriculums and designate such courses at the several institutions as in its judgment will best serve the interests of the state, and award such degrees and diplomas upon the completion of such courses and curriculum requirements as it deems appropriate."

The College has had a gradual evolution from the narrow, limited curriculum of a Normal School to a college composed of fourteen strong departments each offering a major and minor. From the granting of a Normal School diploma, the college has progressed to where it now grants both the Bachelor of Arts and the Master of Arts degrees. From a single building there has evolved a campus containing twenty eight fine buildings, and the original attendance of thirty-one has grown to a maximum of 2200 students for the second semester of 1946 1947.

## Recognition by Accrediting Agencies

Arizona State College is fully accredited by all the recognized agencies of evaluation in its field. The College ranks Class A in the American Association of Teachers Colleges, and in the North Central Association. It also has institutional membership in the American Council of Education. Students transferring from the College to other colleges and universities are given the same recognition in respect to transfer of credits, graduate study, and other privileges as are enjoyed by other universities and colleges of the country.

## The College Setting

### The Environment

*Location.* Arizona State College is located in the City of Tempe at the very center of the Salt River Valley, probably the finest irrigated district in the United States. Tempe is located on the Southern Pacific main line, which makes connections at Phoenix, the capital of the State, with the Santa Fe Railway. Four transcontinental highway systems, 60, 70, 80, 89, make the College easily accessible to all parts of the country, and there is regular bus service between Tempe and Phoenix, nine miles distant.

*Climate.* The climate is ideal during practically all of the college year. Snow is a novelty. Rain seldom mars plans for picnics or other outdoor activities, and high winds are infrequent. Cloudless skies and bright sunshine permit the work of physical education and athletics to be conducted outdoors throughout the entire year.

*Historical and Scenic Features.* Within easy reach by automobile are found Superstition Mountains, Apache Trail, Casa Grande Prehistoric Ruins, Pueblo Grande, Boyce Thompson Arboretum, Roosevelt and Coolidge dams, Canyon Lake, Hieroglyphic Canyon, and other places of historical and scenic interest. Papago Park, a national monument, lies just north of the city. A large natural amphitheater, a chain of lakes, Hole-in-the-Rock, and the Elfin Hills make this 2000-acre park an ideal spot for hiking and picnicking.

## The College Grounds

*The Campus.* There are 120 acres in the college grounds. The campus proper comprises 85 acres of fine, level land, and is arranged in a most attractive manner with its broad shady lawns, and a profusion of trees, shrubs, and flowers.

The twenty-eight modern buildings are distributed over the grounds in two groups, between which College Avenue runs the full length of the campus. In the distance one looks toward the mountains with their ever changing lights, shadows, and wonderful coloring. Portions of the lawn are arranged for flood lighting, and are used by students for parties, receptions, and other social functions.

*Men's Athletic Field.* The men's athletic field is located just south of the men's gymnasium. The football field, the baseball diamond, and the track are maintained in excellent condition. Goodwin Stadium seats about 10,000 spectators. A modern lighting system permits the use of the field for games and pageants.

*Women's Athletic Field.* This field is located just south of the Moeur Activity Building. The field is well equipped for the various activities carried on by a modern physical education department.

*Recreational Areas.* In various parts of the campus are found areas and equipment for outdoor recreation. In these areas are found tennis courts of concrete, screened basketball courts, and fields for speedball, volleyball, women's baseball, archery, and golf.

*Model Farm.* The model farm of thirty-five acres is located one mile south of the campus. It is used for experimental and practical work in various phases of agriculture, including the preparation of teachers for 4-H and other club work.

## College Buildings

*Old Main.* The early traditions of the Territorial Normal School cluster about Old Main with its three stories of ivy-covered brick. It was erected in 1894, and is the oldest of the college buildings. For years it was the scene of all student activities. Now, it is devoted

chiefly to classrooms for academic work. It is located on the south side of the old quadrangle.

*Science Hall.* This building is located on the east side of the old quadrangle. The lecture rooms and laboratories for Chemistry and Physics are located on the first floor, and those for Biology and Agriculture occupy the second floor.

*The College Auditorium.* The Auditorium is located on the west side of the old quadrangle. It seats 1,000 persons. Its forty foot stage and modern equipment permit the staging of dramatic work of high order.

*Arts Building.* This is a modern, fire-proof building of concrete construction faced with cream brick. It houses the departments of Art, Commerce, Home Economics, and Music. The College Book Store, the State Press, and student offices are located in the building.

*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 school system.

*Arthur J. Matthews Library.* This is a modern, fire-proof, air-conditioned, brick building. The main floor and basement contain the offices of administration and several classrooms.

*The Dining Hall.* The dining hall is centrally located, and is conveniently reached from all dormitories. The building and its equipment are thoroughly modern and meet the highest sanitary and health standards. The dining hall is under the supervision of a graduate dietitian.

*Home Management House and Nursery School.* A fine, new building in which students majoring in Home Economics live for a part of a year.

*Student Health Center.* This is located in a quiet section on the east side of the campus. It is fully equipped to care for the needs of college students.

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

*The Lyceum.* This is one of the attractive new buildings. It contains an auditorium, a stage, a lovely reception room, a kitchen, and a fine large basement room. It is used for meetings of small groups, receptions, and many other purposes.

*Men's Gymnasium.* The men's gymnasium is located on the north side of the athletic field. The floor space is ample for the regular gymnasium work, basketball, and other public events. A gallery is provided for spectators.

*B. B. Moeur Activity Building.* This is the center for the women's physical activities, and for the social life of the student body. The building is modernistic in structure. It was named in honor of the late Governor Moeur who served longer than any other man on our Board of Education.

*Alpha Hall.* This dormitory has a capacity of about sixty students. It is located on the east side of the campus.

*East Hall.* This dormitory houses 120 students. It is located at the center of the campus.

*Carrie J. Matthews Hall.* This hall was named after Carrie J. Matthews, the wife of the late president, Arthur J. Matthews. It accommodates about seventy five students.

*North Hall.* This hall is located on the north side of the dormitory quadrangle. It accommodates about seventy students.

*South Hall.* South Hall accommodates about seventy students. It is located on the south side of the dormitory quadrangle.

*West Hall.* This is a large dormitory located on the west side of the dormitory quadrangle. It houses over 100 girls.

*Dixie Dees Gammage Hall.* This is a recently constructed, modern structure housing about ninety girls. The hall was named in honor of Dixie Dees Gammage, the wife of President Gammage.

*Goodwin Stadium.* The Stadium was named after the late Garfield 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. A new unit located on the east side of the field increases the total seating capacity to about 10,000.

*Industrial Arts Building.* The Industrial Arts Building is the west wing of Goodwin Stadium. The building houses one of the best equipped shops in the Southwest for woodwork, metal work, and aviation.

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

*New Men's Dormitories.* There are three, new, modern dormitories for men located just west of the Stadium and Industrial Arts Building.

*North Campus Cottage.* A brick home formerly occupied by President Emeritus Matthews. It is now used as a residence for a faculty member.

*South Campus Cottage.* A brick cottage now used as a residence for a faculty member.

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

*East Stadium.* The newest dormitory for men is underneath the east stadium. Here are fine quarters for 120 men.

*Green Gables.* Dormitory apartments for men obtained from the United States government which house 220 students.

*Veteran Village.* In this Village there are 66 apartments and 50 trailers for the accommodation of veterans and their families.

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

# Entrance and Graduation 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 college work done must be on file in the Registrar's Office. Students should request the high-school principal or college registrar to mail the transcript directly to the Registrar. Transcripts should be in the hands of the Registrar well 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.



*Physical Examination and X-ray.* A physical examination and an X-ray of the chest are required at entrance of all students attending regular day classes of the regular session, excepting those who are registered for not more than five semester hours of work. They are not required of summer session students, extension students, nor of students taking night and Saturday classes only.

*Aptitude Tests.* With the exception of graduate students, students who are registered for not more than five semester hours of work, and students taking work only at night or on Saturday, all students enrolled in the regular sessions of the college are required to take at entrance all aptitude tests. These tests are used for guidance purposes only.

### Admission of 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. Such students may be required to present transcripts of any and all previous high-school and college credits. Such students may become candidates for degrees after deficiencies in entrance requirements have been satisfactorily removed, as determined by the Admissions and Standards Committee.

### Admission with Advanced Standing

1. Students from approved institutions of higher education ordinarily will be given credit, hour for hour, for work done in 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 of 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.

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. Students who have been allowed sixty-four semester hours of advanced standing credit may not have additional credit accepted toward degree requirements for work done in a junior college or a two-year institution.

## 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.

## Admission of Graduate Students

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

# Registration

*Registration Dates.* Students should register on the registration dates announced in the College calendar. Students registering late will be charged a late registration fee. Residence halls will be open to students on the dates given in the College calendar.

*Prerequisites to Registration.* Before registering in the regular sessions, all students seeking admission with regular standing and classification must present transcripts of high school or college work, or both, and take all required aptitude and physical examinations described under the heading, "Admission to College." In addition certain groups of students must meet special requirements given hereafter.

*Classification of Students.* Freshmen are those students 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 other recognized institutions.

*Curriculum Advisers.* Upon entering college each student must select, tentatively at least, a curriculum. Curriculum advisers are designated for each curriculum. The student's registration card must bear the signature of his curriculum adviser.

*Course Loads.* Students carrying twelve or more semester hours of work are classified as full-time students. The normal course loads of students vary from 15 to 17 semester hours. Students who wish to carry more than 17½ semester hours must petition the Admissions and Standards Committee. 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.

*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 and the Registrar. Courses numbered 300 and above are open to graduate students only.

*Freshmen Registration.* Freshmen registering for the first semester are expected to be present at all events scheduled for Freshman Week beginning at 9:00 A.M., Tuesday, on the date shown in the college calendar. Failure to attend any of these events may delay the student's registration, and will require the payment of the late fee for any examinations missed.

Before registering, each student must decide what curriculum to follow, then he will be assigned a curriculum adviser. The adviser approves the student's schedule of studies, signs his registration cards, and continues as his adviser throughout his four years in college.

Freshmen entering college the second semester should report to the Registrar's Office not later than noon on the Friday preceding the date scheduled for the beginning of classes. Those who do not arrive in time to complete their registration and examinations as scheduled will be charged the late fees. No physical examinations are given on Saturday afternoon.

*Registration of Sophomores, Juniors, Seniors, and Graduates.* Sophomores, juniors, seniors, and graduate students will register on the dates indicated in the College calendar. The physical examination, X-ray, and aptitude tests described previously under the heading, "General Requirements," are required. New students should report to the Registrar's Office not later than noon on the Friday preceding the date set for the beginning of classes. A student who fails to complete his registration or examinations as scheduled during registration week will be charged the late fees.

*Auditors.* Students may register as auditors in one or more courses without credit with the approval of the Registrar and with the consent of the instructor involved. Courses audited count toward the student's load. Persons who wish to register as auditors only, will register in the same manner as regular students and pay the same fees. Those who wish to audit classes for short periods of time may obtain a visitor's permit from the Registrar. Usually visitors will pay a nominal fee after the first day of visitation.

*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 on Monday of the third 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.* After a student's registration program card has been signed by his curriculum adviser, it cannot be changed. Programs should be carefully planned under the guidance of the curriculum adviser so that changes in registration will not be necessary. Changes may be made as late as Wednesday of the second week of the semester by means of a Drop Add card. After Wednesday of the second week of a semester, courses may not be added. Drop Add cards for changes in registration may be obtained at the Registrar's Office.

*Dropping Courses after Wednesday of the Second Week.* The courses for which a student is registered at the close of Wednesday of the second week of a semester constitute 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 Wednesday of the second week the student must obtain the permission of the Dean of the College, pay the fee of fifty cents at the Business Office, and present the receipt and the permit at the Registrar's Office. An official drop notice is sent to the instructors from the Registrar's Office after the permit has been filed. A final semester grade of Wp or We will be reported by the instructor for a course dropped after the second week of the semester.

*Withdrawal from College.* Students who find it necessary to withdraw from college should withdraw officially as follows: (1) Obtain a withdrawal card from the Registrar's Office. (2) Secure the signatures of the Dean of the College, the Chairman, Division of Student Affairs, the Dean of Men (men students), the Veterans Educational Adviser (Veterans only), the Librarian, the Comptroller, Business Office, and the Registrar. (3) Obtain refund of breakage deposit or other fees from the Business Office.

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 reason, he should notify the Registrar in writing without delay.

and request that he be officially dropped and that his instructors be notified.

## Graduation Requirements and Degrees

The College grants the following four degrees: Bachelor of Arts in Education, Master of Arts in 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 the five year secondary curriculum. 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.

### Requirements for the Bachelor of Arts Degrees

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

*Credit Requirements.* A total of 126 semester hours is required for graduation with the degree of Bachelor of Arts in Education.

*Curriculum and Course Requirements.* In addition to the semester hour requirements, the candidate must meet all the course requirements of the particular curriculum selected. Alternative courses may not be substituted for required courses, nor may curriculum or course requirements for graduation under a particular curriculum be waived without the approval of 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.

*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. It has no reference to living in dormitories or in Tempe. Credit earned in extension or correspondence courses cannot be used to meet residence requirements. The 12 semester hour 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.

*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 graduation fee and file their applications for graduation with the Registrar before registering for their final term or semester. Those planning to complete requirements for graduation in May should pay the graduation fee and file their application for graduation with the Registrar before November 15.

Application blanks are obtained in the Registrar's Office. Candidates who fail to pay the graduation fee and file applications at the times specified are required to pay the late fee, and may be scheduled for graduation at a later date. Upon filing an application for graduation, a final check on graduation requirements is made for each student by the Registrar's Office. 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 filed in the Registrar's Office at the time of filing applications for graduation. Blanks for this purpose may be obtained at the Registrar's Office.

*Graduation Fees.* The graduation fee is \$10.00 if paid on or before the dates specified in the preceding paragraph. After that date the fee is \$15.00. Five dollars of the regular graduation fee is for membership in the Alumni Association. 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 President of the College. If the petition is granted, a fee of \$7.50 is charged for a degree taken in absentia.

*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

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

## The College Guidance Program

Excellent instruction is one of the chief responsibilities of a progressive college. Instruction is excellent just 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 discover those traits possessed by each student in order that each one may undertake such a program of work 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 for him.

*Aptitude Tests.* 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 or quickness of learning; his ability in reading, English, etc.; and certain personality traits. Vocational and other tests are administered if the student desires them.

*Choosing a Curriculum.* During Freshman Week a number of programs and conferences are held to assist students in deciding wisely upon the curriculum which they will select. This is an exceedingly important decision for the student. His happiness and success in college depends, in part, upon a selection fitted to the abilities, interests, and personality of the student.

*Curriculum Advisers.* As soon as a curriculum is chosen the student is assigned a curriculum adviser. The curriculum adviser assists the student in making out his schedule of studies and signs his registration card. He continues to counsel the student throughout his college life. At the close of each quarter of each year he gives the student his grade card and counsels with him at that time and at various other times. The adviser becomes the student's professional counselor and his personal counselor also.

The counseling and guidance program for sophomores, juniors, and seniors is the same as for freshmen, except that they are assigned their curriculum advisers immediately on entering the College.

## Housing

*Residence Halls.* There are six halls occupied by women students. These are Alpha Hall, Matthews Hall, North Hall, South Hall, West



Hall, and Dixie Dees Grammage Hall. There are five halls ordinarily occupied by men. These are East Hall, East Stadium Hall, Green Gables, and the two new halls located just west of Goodwin Stadium.

*Apartments.* The following temporary facilities are available: twenty apartments in Victory Annex; sixty-six Federal Public Housing Apartments; sixteen Palm Grove Apartments; and fifty trailers in Victory Village. All are located on the campus excepting Palm Grove which is one mile south of Tempe.

*Reservations.* A deposit of \$5.00 for a residence hall accommodation and of \$10.00 for an apartment accommodation is required. Students are placed on reservation lists according to date of receipt of fee. Reservations for rooms and all apartments excepting Victory Village should be addressed to The Housing Office, Matthews Library Building. Reservations for trailers in Victory Village should be addressed to George Morrell, Matthews Library Building.

Refunds on cancellation of reservations cannot be made after September first of a given school year. Preferences for halls may be stated at the time of making reservation. Assignments to men's halls are made on consultation with the Dean of Men; assignments to women's halls are made on consultation with the Dean of Women.

*Occupancy.* Housing accommodations are available for occupancy the Saturday preceding freshman week for freshmen only; for upper class students, the day preceding official registration. Students are expected to vacate accommodations by midnight 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.

*Dormitory Facilities.* All student rooms are provided with electric light, steam heat, city water, and are furnished with a study table, a dressing table, book rack, and chairs. Sleeping porches are used the year round. No student may sleep in his room without the permission of the college nurse. 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 dormitories are so equipped and managed as to secure the maximum values at a minimum cost. For this reason women are asked to live in dormitories. A parent who desires to have a daughter room outside the dormitories must make written request to the Dean of Women. Such permission is granted only under special circumstances. No cooking of any kind is per-

mitted in students' rooms. Vocal or instrumental music may not be practiced in any of the dormitories. 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 other. Young women may be absent from the dormitories overnight only with the written consent of their parents, which must be on file with the head resident at the time of departure. A nominal fee is collected in each hall for the expenses of the social program. This fee may not be refunded.

*Personal Equipment.* The following list is the minimum with which students should be equipped when entering a dormitory: blankets and comforts for a single bed, one white bedspread, six sheets, four pillow slips, four bath towels, four hand towels, dresser scarf, washable laundry bag, and a study lamp. All linens should be clearly marked with the name of the student.

*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 through the Housing Office. 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 injury, 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.* Women students may room outside of dormitories only if approved by the Dean of Women. Men must obtain the approval of the Director of Men. All such rooms must be approved by the College, and both the student and the home owner must agree to cooperate in observing the College regulations.

## Fees, Deposits, and Expenses

*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 by the students indicated below:

Registration Fee .....	\$15.00
Paid by all excepting extension students.	
Student Activity Fee.....	\$9.00
Excepting extension students, this fee is paid by all who carry six or more semester hours. Only those students paying this fee receive activity tickets.	
College Series Fee.....	\$1.25
Paid by all carrying six or more hours, excepting extension students.	
Health Fee .....	\$2.75
Paid by all excepting extension students and those carrying less than six semester hours.	
Gymnasium Fee .....	\$2.00
Paid by all freshman and sophomore students.	
Library Fee .....	\$2.00
Paid by all excepting extension students.	

Special Fees and Deposits

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

Non-resident Tuition Fee (per semester).....	\$125.00
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Every non-resident undergraduate student carrying six or more semester hours pays this fee. Every non-resident graduate student who is not registered for graduate work and not actively working toward the Master's degree pays this fee if registered for six or more hours. Graduate students doing full graduate work are exempt from the non-residence fee, but they pay all the "regular fees." All students registering for less than six hours pay only the registration and library fee. Such students receive no football tickets or other activity benefits.

Students will be exempted from this fee only when satisfactory evidence is presented to show that the following requirements have been met:

- (1) **Minors** must show that the supporting parents or guardians have been residents of Arizona for the preceding year at least. Arizona guardians cannot be appointed for the purpose of avoiding the fee. Residence does not begin until one year after the appointment of guardians.
- (2) **Students over 21 years of age** must show that they have been emancipated from their parents, and since emancipation have resided without change of residence for the preceding year at least in Arizona with the intent of making the state their home. Attendance at the college is not accepted as proof of residence.
- (3) **Aliens** who have their first naturalization papers must show residence for the preceding year at least.

Sworn statements are required. The making of false or misleading statements is sufficient cause for dismissal from the college. Students whose residence is in question will pay the fee, and petition the Admissions and Standards Committee for refunds.

Applied Vocational and Technical Fees (per month).....	\$50.00
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A fee of \$50.00 per month or fraction thereof is charged for this work. This does not include the cost of tools, textbooks or other supplies. This applies to students enrolled under public law 346 and public law 16.

Room Reservation and Breakage Deposit.....	\$5.00
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A room will be reserved in one of the dormitories when the student makes a deposit of \$5.00 in the Business Office. On withdrawal from the College this deposit will be refunded less any damage done by the student to College property.

Apartment Reservation Deposit .....	\$10.00
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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 one week in advance of the time needed.

**Senior Check-Out**

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

**Auditor's Fees**.....Same as regular students

A student registered as an auditor in any course will not receive credit under any circumstances. Students carrying a full load will not be permitted to audit additional courses, unless the overload is approved.

**Laboratory Fees**.....See course descriptions  
With few exceptions such fees are not returnable.**Special Examination Fee**.....\$1.00

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.

**Comprehensive Examination Fee**.....\$5.00 per semester hour  
Paid by all students seeking to establish credit by examination.**Graduation Fee**.....\$10.00  
See description under another section of the bulletin headed Graduation Requirements and Degrees.**Cap and Gown Rental Fee**.....\$2.00 to \$4.50  
Bachelor's cap and gown for baccalaureate and commencement exercises, \$2.00. Master's cap and gown, \$2.25. Master's hood, \$2.25.**Fee for Dropping Course**.....\$0.50  
Charged beginning Thursday of the second week.**Late Fees****Late Registration**.....\$5.00  
All students registering on the date specified for the beginning of classes, or thereafter, pay this fee.**Late Aptitude Tests**.....\$2.00  
Paid by students taking the aptitude tests on the date specified for the beginning of classes or thereafter.**Late Physical Examination**.....\$3.00  
This fee is charged beginning at noon of the last day scheduled for registration.**Late X-ray**.....\$1.00 up  
This fee is charged all students who take the X-ray on the date specified for the beginning of classes or later.**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.

**Locker Key Deposit**.....\$1.00  
Students pay the fee at the Business Office and present the receipt to the Superintendent of Buildings and Grounds to obtain locker keys.**Laboratory Deposits**.....None  
Deductions for materials destroyed or lost will be taken from the breakage deposit.**General Expenses****Board and Room (per semester)**.....\$187.00  
This fee is payable in advance at the beginning of the semester, however partial payments at approximately monthly intervals will be accepted on fixed dates set by the Business Office. No fees are charged for board or room during the

Christmas vacation. No refund will be made for absences on week-ends or for short vacations. No student will be permitted to room in a dormitory unless he is carrying at least twelve semester hours of work and boarding in the college dining hall. Board-and-room tickets are good beginning the Sunday preceding the opening of classes, and ending on Saturday of the last week of the semester. Students arriving at the college before the Sunday dates mentioned may eat in the dining hall and pay for meals as served. No charge is made for rooms occupied by students during Freshman week. The right is reserved to adjust charges for board and room.

Board .....\$33.00

Students rooming outside of dormitories may obtain board only, at this rate for a four-week month, payable in advance on a date set by the Business Office. Refunds are made on the same basis as for room and board.

Room Charge, One in Room..... (extra per month) \$5.00

This extra charge per month is made when one person is given the exclusive use of a double room. Ordinarily, two students share a room.

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 year. All books and supplies can be obtained at the College Book Store.

*General Summary.* The following summary includes the fees and minimum expenses incurred by a student living in a dormitory for one college year:

Registration Fee .....	\$ 30.00
Activities, Health, etc. ....	34.00
Tuition (free to Arizona students).....	0.00
Books and stationery (approximately).....	25.00
Laboratory fees (approximately).....	5.00
Board and room (two semesters) .....	374.00

**\$468.00**

## Payment And Refund Of Fees

### Payment of Fees

The payment of fees cannot be deferred. By regulation of the Board of Education 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

Students officially withdrawing from the College before noon of Saturday of this first week of classes will be refunded the following fees less a \$5.00 charge for registration: The registration fee, activity fee, College series fee, health fee, library fee, and any unexpended portion of laboratory and music fees if approved by the head of the department concerned.

During the second week, one-half of these fees will be refunded, and one-fourth will be refunded during the third or fourth week. After the fourth week no refunds will be made.

### Out-of-State Tuition

Students who officially withdraw from the College before noon Saturday of the first week of any semester will be granted a refund of all the tuition fee. Those officially withdrawing during the second or third week will be granted a refund of \$75.00, and those withdrawing officially during the fourth, fifth, or sixth week will be granted a refund of \$50.00. After the sixth week, no refund will be 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.

# Regulations Affecting Students

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

Inc., Incomplete, given and removed under conditions specified below.

*Incomplete.* A mark of Inc. is given only when a course is unfinished because of sickness or other conditions beyond the control of the student. 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, unless an extension of time is granted by the instructor. If the Inc. is not removed, the instructor will report a mark of Wp or We.

*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 course is dropped and the instructor rates the student's work as passing.

*Mark of We.* The mark, We, is given if the instructor rates the student's work as failing at the time of withdrawal.

*Change of Grade.* A grade once reported to the Registrar's Office may be changed only if the faculty member certifies in writing that a clerical error has been made.

*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

and Inc. 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 in determining the number of semester hours in the course load.

*Low Scholarship List.* All students, who, at any grading period, have scholarship indices so low as to indicate possible inability to meet the college standard of 1.75 for all work done in college, are placed in the Low Scholarship List. Conferences with these students are held, and letters may be written to their parents in order to enlist their cooperation in improving the work.

*Probation List.* All students, who, at the mid semester or at the close of any semester, fail to receive passing marks in fifty percent of the semester hours for which they are registered on the second Monday of a given semester are placed on the probation list. In addition, all students, even though passing in more than fifty percent of their work, who fail to receive an average scholarship index of 1.00, are placed on the probation list.

*Disqualification.* All students whose names are on the probation list at the close of any semester are disqualified for the next succeeding semester. Students disqualified at the close of the second semester are not eligible to attend summer session or the following semester. Where mitigating circumstances are deemed sufficient, a student may be reinstated by a vote of the Reinstatement Committee. Any disqualified student has a right to be heard by this committee after making written application to the Dean of the College.

*Reports to Students.* Each student receives a report at the mid-semester and at the close of each semester showing his standing in each course taken. These reports are handed to the student by his adviser during a conference held for the purpose of giving guidance to the student. The mid semester report is given in order that the student may be advised of his progress, but only the final mark for the semester is entered on the student's permanent record card.

*Reports to Parents.* A duplicate of the student's report card showing his standing in each class is mailed to the parent at the close of each semester. A copy of the mid semester report will be mailed to any parent who sends a self-addressed envelope to the Registrar's Office.

## 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

drop a student from class, and will send a drop card to the Registrar's Office whenever, in his opinion, the student has missed sufficient work that continuation in the course seems to be of questionable value to the student or to the class.

No excuses for absence from class are granted either by the administration or by instructors. The student alone assumes full responsibility for all absences. Instructors will permit students to make up tests and other work missed only when the absence was from a cause beyond the control of the student or on account of activities assigned by the College. The instructor is the judge of the validity of the reasons given for absence.

## Conduct of Students

It is the policy of the College to give students the largest degree of liberty consistent with good work and orderly conduct. Both within and without the College, students are expected to show such respect for good order, morality, personal honor, and the rights of others as good citizenship demands. Failure in these matters or neglect of academic duties will be considered sufficient cause for removal 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. Any proposed enterprises by such students or organizations must receive the official sanction of the College before announcements are made of such enterprises.

The use or possession of intoxicating liquors of any kind whatsoever is prohibited on the campus, at all social events wherever held, or at any other event where such use may reflect on the good name and reputation of the College.

The College assumes that the act of registering as a student implies full acceptance of these standards of conduct.



# Assistance to Students

## Loan Funds and Foundations

The College is anxious to be of service in assisting worthy students in every way possible. A number of organizations have loan funds for this purpose. The College keeps a list of these in the office of the Dean of the College and will lend all aid possible to students who desire loans.

*Alumni Endowment Fund.* Loans are made to second semester seniors based on need, scholarship, and character. The maximum size of the loan is \$150.00. The loan note bears 4% interest until the date of maturity; thereafter, the rate is 8%.

*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.

*D. A. R. Loan Fund.* The Charles Trumbull Hayden chapter of the Daughters of the American Revolution has established a fund which is available for the use of responsible and worthy students during the entire year immediately preceding their graduation.

*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%.

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

*Harold V. Smith Educational Fund, Inc.* Loans are made to deserving students, between the ages of 18 to 25, based on integrity, intelligence, character, competency, and aptitude. Loans are made only to students whose support depends on their own labor in whole or in part. The maximum loan for the school year is \$300.00. The rate of interest is 4%.

*Applications.* From year to year other loan funds are available. Students interested in loans should make application at the office of the Dean of the College.

## Honors and Awards

*The Arizona Society of Public Accountants Award.* An annual award made to a graduating senior with the B.S. degree with an area of concentration in accounting, and who has distinguished himself in scholarship and contributions to business. The selection is made by the Education Committee of the Arizona Society.

*Elenore Altman Scholarship.* One scholarship per year to a student majoring in piano. The scholarship will be awarded in turn to the University, to Arizona State at Tempe, and Arizona State at Flagstaff.

*Association for Childhood Education Award.* An award of a significant contemporary book to the outstanding junior student in the field of education for young children.

*Commerce Award.* The Commerce Department presents annually a trophy to a graduating senior for high scholarship, personality, and service.

*The Dunbar Award.* A gold key is awarded the colored graduating senior with the highest cumulative index for at least sixty semester hours of work taken at Tempe.

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

*The Gibbons Leadership Awards.* Each year, Mr. M. L. Gibbons of Mesa offers two cash prizes of twenty-five dollars each. These are awarded to a man and a woman who stand highest on a scale, as rated by a selected committee of faculty members, on the basis of character, leadership, scholarship, and promise of future contributions to society.

*Graduation Honors.* Two types of honors are awarded at commencement time to students ranking high in scholarship. 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.

*Home Economics Awards.* Two awards, usually books, are given annually by the Home Economics department and Pieta Chi to an outstanding senior and an outstanding sophomore for achievement in Home Economics and high general scholarship.

*Kappa Delta Pi Award.* An award of twenty five dollars is made annually by Kappa Delta Pi, a national honor society in education, to the student obtaining 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 is made to a graduating senior who attains the highest cumulative index for the junior and senior years under the same conditions prescribed for Kappa Delta Pi award.

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

*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.

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

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

*The Pleiades Plaque.* This plaque is awarded at the end of each semester by Pleiades to the hall having the highest, collective undergraduate scholarship index. Off campus men and off campus women are considered as two of the groups. The group winning it three times in succession retains the plaque.

*The 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 on the last Saturday of April annually.

*Secretarial Award.* A recognition award given in the commerce department to the outstanding student of the year in secretarial courses.

*Theta Chi Epsilon Award.* This award, usually a book on fine arts, is given annually to a senior student for excellence in scholarship and Art achievement.

*West Hall Award.* A book is awarded to the resident of West Hall for outstanding achievement in scholarship, and service to the hall and to the College for four years.

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

## Scholarships and Fellowships

*Alpha Kappa Alpha Scholarship.* Alpha Sigma Chapter of Alpha Kappa Alpha Sorority presents annually a scholarship of \$50.00 to an outstanding student of the Carver High School.

*Alumni Scholarships.* Four fifty dollar scholarships are awarded annually at the beginning of the senior year to students who are outstanding in ability and service to the college.

*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 by the National Scholarship Committee of the Legion. The awards are \$400.00 for the first year, and \$100.00 for three months of actual attendance thereafter.

*Arthur Emery Harvey Scholarship in Applied Music.* A scholarship in applied piano is given each year by Hazel Harvey Quaid to the freshman who stands highest in piano sight reading, repertoire and general musicianship. Examinations are given during freshman week.

*A. W. S. Scholarship.* Associated Women Students offer a one hundred dollar scholarship to a high school senior girl. Outstanding scholarship, personality, and participation in extra curricular activities are the essential qualifications.

*Chinese Scholarships.* Six scholarships are awarded yearly to worthy students residents of China who wish to continue their education in America.

*The C. M. Paddock Fellowship* is awarded each year to a graduate selected under conditions to be determined by the administration of the College.

*Community Concerts Association Scholarships in Music.* A scholarship in voice and one in piano will be awarded annually to juniors and seniors who have spent the first two years of their college study at Arizona State College. Such students must give evidence of real musical ability, sincerity of purpose, and need of financial assistance. Each scholarship is valued at \$54.00 per year.

*Delta Sigma Theta Scholarship.* Beta Theta Chapter of Delta Sigma Theta Sorority presents each year to the girl student of Carver High School who ranks highest in scholarship an award of \$50.00.

*Freshman Scholarships.* Several scholarships are awarded by the College each year to outstanding high school seniors. The e scholarships pay the registration, and all other regular fees for the fresh man year excepting fees for private lessons. These scholarships are valued from \$55.00 to \$70.00 per year. Write to the Dean of the College for information.

*Latin-American Scholarships.* A few scholarships are given each year to residents of Latin American countries.

*Rhodes Scholarship.* Arizona State College students are eligible for these scholarships valued at \$400 a year. The student must be a citizen of the United States, unmarried, and between the ages of 19 and 25.

*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 vary in amount. At present the amount is \$75.00. A given student is eligible both for a scholarship and for a Kellogg loan.

## Placement Service

### Placement Of Teachers

*Purpose.* The Placement Bureau of the College is maintained to assist graduating students in securing suitable teaching positions, and to help promote successful Tempe teachers in the field. It seeks at the same time to serve the best interests of the superintendents, principals, and school trustees of the state who desire to secure teachers adapted to the peculiar needs of their particular schools. Every effort is made to place all graduates in positions suitable to their preparation and ability, but the Placement Bureau does not guarantee the placement of graduates.

*Enrollment.* All graduating students enroll with the Placement Bureau, filling out the appropriate blanks and receiving full information and instructions relative to securing a position. Complete records are kept on file in the Placement Office. Enrollment must be renewed each year if help is desired after graduation. These records consist of recommendations from faculty members who are familiar with the student's academic work, reports of supervisors and critics on the quality of work done in directed teaching, and scholarship ratings. The record also includes personality ratings and a photograph. Copies of these records are sent out upon application to

superintendents, principals, or trustees, or they can be examined and reviewed by them when they visit the Placement Office.

*Interviews.* Superintendents usually prefer to select their teachers after personal interviews, and by actually seeing them at work in their classrooms. Many take advantage of the opportunity to visit the training schools and observe the performance of prospective teachers.

*Placement in Business.* There are many opportunities for employment in non-teaching positions. Students who desire such positions should register with the Bureau.

*Write for Information.* Requests for teachers to fill positions, reports of vacancies, and all other correspondence relative to placement should be addressed to I. D. Payne, Director of Placement.

## Student Employment

Every effort is made through tests, consultations and records to assist students to select jobs which tend to supplement their educational goals through training and experience.

*Student Employment Office.* The student employment office, located in Room 121, Matthews Library Building, receives regular applications from students for part time jobs and makes assignments on a semester basis to regularly registered, qualified students.

*Classes of Jobs.* Available jobs on the campus fall into the following categories: office (stenographic, clerical, general); *janitorial and housekeeping*; librarian; dining hall assistants, *buildings and grounds assistants*; laboratory assistants; general faculty assistants.

*Off-Campus Jobs.* A file of off-campus jobs is maintained with the cooperation of the community. These usually require special skills or training.

*Hours, Wages and Eligibility.* Student rates of pay vary with the training and skill required. A student may earn as much as \$40.00 or more a month. Students may work from five to twenty hours per week according to the requirements of the job assigned. Students working twenty hours a week will be asked to carry a reduced class schedule. All students holding jobs are expected to maintain at least a 2.00 scholarship index. Students failing to maintain this standard will be asked to drop their job and apply for financial assistance if needed to continue their studies.

## Student Health Service

*Student Health Service.* This service is maintained for the purpose of constant supervision over the health of students. A dispensary and

in firmary are staffed by a consulting physician and three registered nurses. The Student Health Service is located on Normal Avenue.

*Health Examination.* A health examination including Kahn and tuberculin test and chest x rays is required of all new, entering 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 reserves the right to make recommendations involving the health of students in regard to any activity in connection with their college program. Restricted class schedules or physical activity programs may be recommended by the Student Health Service on the basis of findings in 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 Responsibility.* With the payment of the health fee of \$2.75 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.

# Student Group Activities

## Student Government

*Associated Students.* Every student of the college is automatically a member of the Associated Student Body. By encouraging student participation in the government of the college, the Board of Education, the President, and the faculty challenge every student to accept his 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. A Council selected from the student organization and elected by the student body functions as the executive body of the Associated Students.

*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 relationship, and to make provisions for social activities and for such other functions as may be in the best interest of the men students and the College. The group is governed by officers elected by the members of the organization.

*Associated Women Students.* Every girl registered in the College is a member of the Associated Women Students. The object of this organization is to promote the special activities of interest to the women students. A governing body called the Activities Council is composed of duly elected officers, the vice presidents of the women's dormitories, and a representative from each women's society on campus.

*Men's Judiciary.* This is a student government group composed of the President of the Associated Student Body, the President of the Associated Men Students, and representatives from off-campus, Victory Village, and from each men's dormitory on campus.

*Women's Residence Council.* Residence Council of Women's Halls is made up of the president of each hall and one selected representative with the Dean of Women as an ex officio member.

## Student Organizations

*Types of Organizations.* The professional and social inclinations of the students find expression in a number of organizations of widely varying composition and objectives. Among these are scien-



tific societies, honorary fraternities and sororities, departmental organizations, service organizations, and organizations whose purposes are purely social or recreational. A number of these organizations are national while others are local.

*Scholastic Requirements.* In order to be eligible for admission to membership in any student organization, the 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 shall be suspended from active work in the organization for one semester.

### Service Organizations

There are two service organizations which recognize achievement in all around campus life.

*The Blue Key.* This is a national honorary fraternity composed of men students of the junior and senior class who rank high in leadership in various fields of college activity.

*The Pleiades.* An honorary women's service organization composed of twelve women selected from the junior and senior classes on the basis of leadership, achievement, integrity, dependability, personality, and scholarship.

### Departmental and Interest Organizations

*The "A" Club.* An honorary group through which the W.A.A. gives recognition to all college women who have earned 1,000 points in dance and sports and who have desirable standards of sportsmanship, leadership, and service.

*The Aggie Club.* Open to all majors and minors in agriculture, promotes the interest of agricultural education.

*Alpha Mu Gamma.* A national honorary fraternity for students of foreign languages.

*Alpha Psi Omega.* A national honorary dramatic society open to those who acquire twenty points in dramatics.

*The Aristavet.* The Aristavets is composed of veterans in the college. Its purposes are to aid student veterans in problems of adjustment and relationship between veterans and other students, to give aid and advice in veterans affairs, and to provide social recreation for veterans on the campus.

*The Association for Childhood Education.* The student branch of the international organization, promotes the interests of kindergarten primary education.

*Beta Chi.* Composed of girls whose major interest is in home economics. This organization is affiliated with the National Home Economics Association and with the state organizations.

*Collegiate 4 H Leaders Club.* Open to students preparing for leadership in 4 H clubs. This is said to be the only club of its kind in the United States.

*The Commerce Club.* An organization of students majoring in Commerce. The club serves those who plan to teach and those who intend to enter business.

*The Dunbar Social and Literary Club.* This club was organized by Joe Lewis in 1935, provides opportunity for colored students and promotes good will and understanding.

*Future Teachers of America.* The purpose of the organization is to bring together in mutual cooperation and helpfulness young people who wish to learn what the opportunities are in various fields of education. It emphasizes personal growth, leadership, and service to the school.

*The Geographic Society.* An organization of students who excel in geography, general scholarship, and character.

*The International Relations Club.* An organization of students majoring in the social studies. Its purpose is to create an interest in national and international affairs.

*Kappa Delta Pi.* A national honorary society fostering high professional and scholastic standards, and recognizing outstanding service in the field of education.

*La Liga Panamericana.* A club which promotes friendly relations among those interested in things Spanish.

*Los Conquistadores.* Has as its purpose the promotion of the welfare of the Spanish-speaking students on the campus. Membership is open only to those of Spanish lineage.

*Mu Rho Alpha.* This is an honorary fraternity which aims to recognize and develop musical ability, to encourage an appreciation of good music, and to maintain high scholarship.

*The Pasteur Scientific Society.* Affords opportunities for student activity in the biological and physical sciences.

*Pi Gamma Mu.* A national honorary social science fraternity recognizing scholastic attainment in the social sciences.

*Pi Kappa Delta.* National honorary forensic society, is open to those who make outstanding records in intercollegiate debate and oratory.

*Pi Omega Pi.* A national honor society for commerce majors interested in becoming teachers of commercial subjects. It aims to create and promote interest and scholarship in commerce.

*Psychology Club.* Open to majors and minors in Psychology. Promotes interest in Psychology as a science and the problems of human relationships and adjustment.

*Sigma Pi Sigma.* A local honorary accounting society, stressing originality, scholarship, and social 'lity.

*Theta Chi Epsilon.* An honorary art fraternity, aims to develop a genuine appreciation for art and enrich the aesthetic experiences of the members.

*The Women's Athletic Association.* An organization under the sponsorship of the Department of Physical Education for Women. It cooperates in furthering opportunities for participation in sports and dance activities.

### Sororities and Fraternities

These organizations aim to promote high standards of manhood and womanhood on the campus, to foster a spirit of fellowship and cooperation, and to further opportunities for the development of social competence. They seek to maintain a spirit of loyalty to the various traditions of the College. In order to be invited to membership, a student must have a scholarship index of 2.00 or better at the close of the semester preceding the date of invitation. Before pledging, each group will submit a roster of prospective pledges. The fraternity rosters will be submitted to the Dean of Men. Sororities will submit rosters to the Dean of Women.

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

<i>Chi Sigma</i>	<i>Phi Beta Epsilon</i>	<i>Pi Alpha Gamma</i>
<i>Kappa Theta</i>	<i>Phi Lambda Nu</i>	<i>Zeta Sigma</i>
<i>Kappa Kappa Alpha</i>	<i>Philomathian</i>	

*Fraternities.* The following local Greek letter fraternities carry on the traditional objectives of each group:

<i>Delta Kappa</i>	<i>Mu Sigma Chi</i>	<i>Tau Sigma Phi</i>
<i>Lambda Phi Sigma</i>	<i>Pi Delta Sigma</i>	<i>The Ujsses</i>

*Inter Sorority Council.* The Inter-Sorority Council, composed of the president and a sponsor of each sorority with the Dean of Women, operates for the mutual benefit of all societies.

*Inter-Fraternity Council.* This council is composed of the presidents of all fraternities and the Dean of Men. Fraternity sponsors meet with the student organization as advisers.

### Religious Organizations

*The Religious Council.* The Religious Council is composed of representative students from all denominations. This body acts as sponsor

and promoter of various religious programs, and seeks to foster religious living on the campus.

*Denominational Organizations.* Opportunity for participation in religious activities is offered through the various organizations for college students meeting on the campus and in various local churches, such as the Wesley Foundation, Methodist; the Pilgrim Fellowship, Congregational; the Lambda Delta Sigma, Latter Day Saints; the Campbell Club, Christian; the Canterbury Club, Episcopal; The Baptist Youth Fellowship; The Hillel Foundation, Jewish; the Westminster Club, Presbyterian; the Lutheran Student Association; and the Newman Club, Catholic.

## Special Group Activities

### Physical Activities

The end of the war brought with it full-time resumption of intercollegiate athletic activities. 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. Other sports may be added in the near future. In addition to the intercollegiate program is a well-planned intramural organization. This program includes all of the major sports with several additions to the intercollegiate program.

Both the men's athletic field and the women's field afford excellent facilities for the various types of sports, games and athletic events conducted by the College. Goodwin Field is equipped with a system of flood lighting permitting football and track events to be held at night. The Men's Gymnasium cares for all men's indoor events, while the Women's Activity Building serves a double purpose. It is the center for the social activities of the College, and for all women's indoor physical activities.

### Speech and Dramatics

*Debate.* The College offers an extensive program of intramural and intercollegiate debating. The division of speech arts is affiliated with three forensic leagues—the Arizona Speech Arts League, which sponsors a tournament among five 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 several tournaments, most of them in the coast states. Students who become members of winning teams are eligible for membership in Pi Kappa Delta, national honorary forensic society.

*Oratory.* Campus orators are given opportunity to compete in a number of contests, local, state, and interstate. In the state contest three cash prizes aggregating \$100, are offered for the best original

orations on international peace. Representatives of the college in oratory are sent to all state and interstate speech tournaments.

*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 membership in Alpha Psi Omega, national dramatic fraternity.

### Music Activities

Opportunities are given for the expression of musical talent in recitals by the students of voice, piano, violin, brass and woodwind instruments; by the glee clubs; and by the orchestra. College credit is given for regular work in these organizations. During the year concerts are presented on the campus.

### Student Publications

*The State Press.* Under the auspices of the Associated Students, there is published, weekly throughout the year, a five column, six page newspaper. It serves as a record of current events of campus life and is used as a laboratory for students in classes in journalism. The journalism instructor serves as adviser. The editor and the business manager are appointed by the publications board. Subscription to the publication is included in the activities fee.

*The Sahuaro.* The Sahuaro, traditional yearbook of the college, is published annually by a student staff. A record of student activities, the book contains 180 pages, is richly illustrated and handsomely bound. It is customary that members of all four classes have individual portraits in the class section of the annual. The book is financed from three sources, the student activity fee, advertising, and student subscriptions.

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## General Information

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### Alumni Association

*Membership.* The Alumni Association was organized under the leadership of President E. L. Storment, in June, 1894. There are about 6500 members including the class of 1946. 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.

*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 \$20,000.00, and more than 400 students have received aid from the fund. Loans are made only to seniors in the second semester.

*Alumni Scholarships.* The Association offers four scholarships each year to outstanding students. See the description under "Awards and Prizes."

*Alumni Induction Ceremony.* This ceremony is held annually on the Monday night preceding the Commencement exercises. Its purpose is to get the seniors acquainted with some of the alumni, and to get them interested in the work of the Alumni Association.

*Alumni Register.* The College attempts to keep a card file giving the names and addresses of all active members of the Association. This is a difficult task especially in time of war. 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

SIDNEY B. MOEUR, '14.....	Phoenix
President	
EDWIN C. RIGGS, '25.....	Phoenix
First Vice-President	
LYNN WILLIAMS, '18.....	Chandler
Second Vice-President	
JOE SELLEH, '32.....	Tempe
Third Vice-President	
BETTY GAIL WAKEFIELD, '45.....	Tempe
Secretary	
GEORGE MORRELL, '41.....	Tempe
Treasurer	
JOHN R. SANDIGE, '14.....	Phoenix
CHARLES A. STAUFFER, '01.....	Phoenix
LYNN M. LANEY, '03.....	Phoenix
CHESTER WICKLIFFE, '22.....	Tempe
JOHN BURKE, '35.....	Tucson
Board of Directors	

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## Extension Division

Many teachers who desire to continue their studies while actively engaged in teaching 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 classes and correspondence courses. By these two methods, the regular College courses are made available to the teacher in service at a moderate cost.

In addition, the College offers its services to teachers and communities through radio service, speaker and consultant service, visual aids bureau, school visitations, published bulletins, and other means.

### Extension Classes

Extension classes are those given by regular members of the college faculty in the cities or towns within easy reach of the College. By taking advantage of courses thus offered, teachers are enabled to accumulate the credits needed for the renewal of certificates or for the completion of requirements for the degree. These courses carry either two or three hours of credit, and are identical in content with the corresponding courses offered in the regular session. Work done in extension classes or by correspondence does not meet the residence requirements.

Courses in any department of the college will be offered if there is sufficient demand for them. For the organization of a class, a minimum of twelve students must be registered. Classes are organized in September of each year. Since the selection of courses to be offered is determined largely by the number of applications received, it is important that applications for specific courses be filed with the Director as soon after September first as possible.

The fee for all extension courses is \$6.50 per semester hour, and is payable at the time of registration. For further information concerning extension courses, write the Director of Extension.

### Correspondence Courses

Through the use of the mails, the privileges of the college campus and services 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 \$6.50 per semester hour of credit carried. Enrollment between May 15 and September 15 carries an additional fee of \$2.00 per course.

Credit earned in extension classes and in correspondence courses may be applied toward the bachelor's degree; however not more than one fourth of any curriculum leading to the degree shall be taken in extension classes or by correspondence, and not more than half of this shall be done by correspondence. Correspondence courses are not accepted for credit toward the degree of Master of Arts in Education.

No student doing work in residence may register for a course in extension or by correspondence without obtaining the approval of the Admissions and Standards Committee. All inquiries concerning extension classes or correspondence courses should be addressed to the Director of Extension.

### Visual Aids Service

The College maintains a visual aids library of over 2,000 glass slides and a good supply of films. These are circulated to the schools of the state. Each school using this service pays a fixed annual fee. For further information concerning the library write to the Director of Visual Aids Library.

## The Summer Session

*Two Terms.* The summer session consists of two terms of five weeks each. It meets the needs of superintendents, principals, supervisors, regular college students, and recent graduates of high schools who wish to earn credits to meet the requirements for the degree of Bachelor of Arts, or the degree of Master of Arts in Education, or for the renewal of certificates.

*Air Cooling.* The Matthews Library is air cooled by the latest refrigeration system. Students can study in comfort and attend classes in comfort in any of the classrooms in the library.

*Forenoon Classes.* Classes meet in the forenoon only, leaving the afternoons open for study, reference reading, laboratory work or recreation. This gives students a fine opportunity to have individual conferences with faculty members as desired.

*College Credit.* Since the class periods are extended from fifty to sixty minutes, students can earn six semester hours for each term, or twelve hours for the entire summer session. No student will be permitted to register for more than six semester hours per term. Full residence credit is given. In three full summer sessions, the residence requirements 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 superintendents, principals, supervisors, and other teachers, who have already acquired the bachelor's degree, to do graduate work leading to the degree of Master of Arts in Education, without loss of time in their professional capacity or sacrifice of salary.

*Fees and Expenses.* The tuition fee is \$20 per term, both for residents and non-residents of Arizona. A library fee of \$1.00 per term is required of all summer students. Textbooks and stationery may be purchased at the college book store on the campus. Board and room for the summer may be obtained at moderate rates.

*Write for Bulletin.* Those teaching in Arizona schools will receive the summer session bulletin in March. Others should send their requests for bulletins or for other information to the Director of Summer Session.

## Directed Teaching

*Under Direction of Mr. Payne*

*Admission to Directed Teaching.* Admission requirements for directed teaching are the following:

1. Pass a teaching entrance test.
2. Have a scholarship index of 1.75 or better.
3. Have at least junior rank.
4. Students pursuing the Elementary or Kindergarten-Primary Curriculum must have taken Elementary Psychology and Educational Psychology before registering for practice teaching. In addition they must have taken the Elementary Curriculum and Educational Measurements or they may take them concurrently with directed teaching.
5. Students pursuing the Secondary Curriculum must have taken Elementary Psychology, Educational Psychology and Secondary School before registering for directed teaching. In addition they must have taken Educational Measurements and a course in secondary methods, or they may take them concurrently with practice teaching.

Directed teaching should be taken either the second semester of the junior year or the first semester of the senior year.

*Requirements.* All students who are candidates for the bachelor's degree and elementary certification teach in the training schools for one-half day for one semester in the last half of the third or first half of the fourth year. Students who are preparing for secondary certification teach for one-quarter day for one full semester in the last half of the third or first half of the fourth year. Regular class work in school law and techniques of school management parallels the directed teaching. 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 any activities that interfere with their directed teaching, conferences, or other duties in the training school.

*Training Schools.* The College has available seven distinct schools for the training of student teachers. In addition, many students do directed teaching in the Phoenix schools. Each of these presents its own particular type of problems, so that the institution is enabled to provide special training for all the different types of teaching, from the nursery to the twelfth grade, inclusive. All these schools are organized and maintained as regular public schools, and class conditions parallel as nearly as possible those in the other public schools of the state.

*Ira D. Payne Training School.* This modern building is located on the college campus. It houses a kindergarten, the elementary school composed of grades one to five, inclusive, and the junior high school composed of grades six to eight, inclusive. A well designed activity and reading readiness program is carried on in the kindergarten. Special attention is given in the elementary school to the social development of children, activity units, auditorium work, music, and play activities. The junior high school is administered as a separate unit. Its distinguishing characteristics are a flexible program, departmentalized work, limited electives, work adjusted to individual differences, and emphasis on the practical arts and activity work in addition to the regular subjects.

*Nursery School.* A modern, well-equipped nursery school is located in one wing of the Home Management House. This school provides experience, through directed teaching in this field, for students who are preparing for vocational certification in home making.

*Rural School.* Located two miles south of Tempe, this school is operated by the College in cooperation with the district board for the preparation of teachers for the rural schools of Arizona. This six-room school is under the direction of a trained supervisor. Student teachers are furnished transportation on the college buses.

Every effort is made to keep the conditions typical of rural situations elsewhere, so the student teacher may learn to meet actual rural problems.

*Tempe Grammar School.* A limited number of students do directed teaching in the city schools under the supervision of the director of training schools and the regular teachers. The equipment and the program are similar to those of the other schools.

*Phoenix Grade Schools.* Directed teaching may be done in some of the elementary schools by students interested in certain special types of teaching.

*Phoenix High Schools.* Students preparing to teach in secondary schools may do their directed teaching in Phoenix Union High School, under the guidance of the supervisor of high school teaching, the director of teacher training of the College, and the head of the department in which the teaching is done.

## The College Library

*Matthews Library.* The library occupies the entire upper floor of the Matthews Library and Administration Building. The reading rooms have a seating capacity of approximately three hundred students. The book collection contains 40,000 volumes, including an excellent reference collection, the Arizona collection, as well as other special collections. Over 5,000 bound periodicals are available. The library is a recent United States government depository for federal documents. The periodical subscription list includes the outstanding general and professional magazines and journals, as well as leading newspapers of the nation and state. The Carnegie Endowment for International Peace maintains a collection of books in the library for the International Relations Club.

*Training School Library.* In addition to the general library, there is a children's library in the Training School. This collection contains about 5,000 carefully selected juvenile books covering all types of literature. The book collection is supplemented by a large collection of pictures, by a selection of outstanding juvenile periodicals, and by a textbook exhibit for enrichment of directed teaching.

# The Graduate Division

## The Graduate Program

*Organization.* In March, 1937, an Act of the Thirteenth Legislature authorized the Arizona State College to grant the advanced degree of Master of Arts in Education. A program of graduate work has been offered at the Arizona State College, Tempe, since the 1937 summer session.

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. The Committee on the Graduate Offering is responsible to the Graduate Council for the development, supervision, appraisal, and approval of courses that shall constitute the graduation offering. This Committee includes the Heads of the Departments of the College and the Director of Graduate Study as chairman.

*Purpose.* The program of graduate work at Arizona State College has for its primary purpose the preparation of professionally competent teachers and other educational workers.

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 (1) primary, elementary, or secondary teaching, (2) administration and supervision of elementary or secondary schools, (3) special educational services such as remedial reading and student personnel and guidance work, or (4) educational pursuits other than public school work.

High scholarship and professional competency are required in one or more of these areas. Students whose major purpose is preparation for teaching, particularly at the secondary school level, will be expected to include in their programs such courses in fields other than education as may be essential for the development of competency in a major teaching field.

The degree of Master of Arts in Education is conferred upon the satisfactory completion of the five-year secondary curriculum or

upon the completion of an appropriately chosen program of at least thirty semester hours of graduate work following graduation from any other curriculum.

The graduate program is designed to serve not only the needs of students who desire the degree of Master of Arts 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 graduate study at Arizona State College. Graduate students are admitted to Regular or Special Standing.

*Regular Standing.* Graduate students who file with the Director of Graduate Study an Application for Admission to Graduate Study in which they declare their intention of entering upon a program of graduate study with a view to meeting the requirements for the master's degree, and who file with the Registrar official transcripts of all college work done elsewhere are admitted to regular standing upon acceptance of the Application and approval of transcripts. More specifically, the following criteria may be employed in determining an applicant's eligibility for admission to Regular Standing:

1. A bachelor's degree from an approved institution.
2. An acceptable scholastic average in undergraduate work.
3. High scholarship in any graduate work done elsewhere.
4. An undergraduate program showing breadth of content as a whole, and a satisfactory concentration in special fields.

*Special Standing.* Graduate students who file with the Director of Graduate Study an Application for Admission to Graduate Study in which they declare their intention of entering upon a program of graduate study for purposes other than meeting requirements for the master's degree are admitted to special standing. Ordinarily students admitted to special standing need not file transcripts of undergraduate and graduate work done elsewhere. A graduate student may have his standing changed from special to regular by satisfying the above condition, viz., by making application, filing transcripts, and being accepted. Credit earned as a special graduate student may be applied toward requirements for the master's degree only upon the approval of the Director of Graduate Study.

Transcripts of undergraduate and of graduate work done elsewhere should be sent to the office of the Registrar well in advance of initial registration. Graduate students who expect to qualify for an Arizona teaching certificate must file two copies of transcripts of undergraduate and of graduate work done elsewhere. The second copy will be forwarded to the State Department with the application for the teaching certificate.

Admission to graduate study does not imply admission to candidacy for the master's degree.

*Registration.* Graduate students register on the regular registration days at the beginning of each semester or summer term. Registration dates are shown in the calendar.

*Course Load.* Graduate students may not register for more than sixteen semester hours of course work, inclusive of thesis, in any one semester, nor for more than six semester hours, inclusive of thesis, in a single summer term. Students employed part time may not register for a full course load. In service teachers, employed full time, are permitted a maximum course load, inclusive of thesis, of five semester hours of work in any one semester. Exceptions to these regulations must have the approval of the Director of Graduate Study.

*Advisement.* The Director of Graduate Study is general adviser to all graduate students until a graduate advisory committee has been appointed. Students who enter upon a program of graduate study at the beginning of either semester of the regular academic year shall request the appointment of a special advisory committee before the middle of the first semester of residence. Students who enter upon a program of study at the beginning of either term of the summer session shall request the appointment of a special advisory committee before the end of the first summer term of residence.

## Admission to Candidacy

Admission to graduate study does not imply admission to candidacy for a master's degree. Admission to candidacy for the degree of Master of Arts in Education is contingent upon the recommendation of the student's advisory committee and the approval of the Graduate Council.

Before being accepted as a candidate for the degree of Master of Arts in Education, a student will be expected to have:

1. Given evidence of personal and professional fitness to become a candidate for a professional degree in Education;

2. Attained a satisfactory level of competence as a teacher through pre-service or in-service teaching experience.
3. Selected a balanced program of graduate work directed toward the realization of a definite and worthy objective.
4. Demonstrated ability to do satisfactory and creditable work at the graduate level.
5. Selected a suitable thesis problem.
6. Shown promise of ability to do critical thinking and of ability to carry forward an original and independent study or in vestigation.

Before filing an Application for Admission to Candidacy, students may be required to take certain general qualifying examinations. Advisers may arrange with the Director of Graduate Study for the administration of special qualifying examinations, oral or written, to individual students before recommending them for admission to candidacy.

Each student shall file with the Director of Graduate Study an Application for Admission to Candidacy for the master's degree not later than four calendar months prior to the end of the semester or summer term in which he expects to complete the requirements for the degree, but not until he has completed at least twelve semester hours of graduate credit, inclusive of current registration, at the Arizona State College, Tempe.

## Requirements for the Master's Degree

*Program of Course Work.* The degree of Master of Arts in Education may be conferred upon a student who, having been accepted as a candidate for the degree, completes with high credit the program of work which accompanied his application for admission to candidacy. This program shall include a minimum of thirty semester hours of advanced work inclusive of course work, individual problems, and thesis so planned as to meet with the approval of the student's advisory committee and the Graduate Council.

*Prerequisites.* Graduate students who intend to become candidates for the degree of Master of Arts in Education are required to present a minimum of twenty-four semester hours of undergraduate credit in Education and related courses.

Graduate work in both education and academic courses presupposes certain undergraduate course prerequisites or an equivalent background acquired through experience. In general the student will be expected to have completed twenty four semester hours of

credit, or the equivalent, in a given field before enrolling in graduate courses in the same or closely related field. Fifteen semester hours of credit, or the equivalent, in a given field is the usual prerequisite for graduate credit in approved upper division courses in the same or closely related fields.

*Residence.* Candidates for the master's degree are required to complete a full program of twenty six hours of graduate course work (four semester hours for thesis excepted) in residence at this institution. This requirement is designed to assure for most students a minimum of residence study of two semesters or five summer terms.

*Graduate Credit Earned During Senior Year.* A senior student, regularly enrolled at Arizona State College, who is within twelve semester hours of completing the requirements for the bachelor's degree, may register for a sufficient number of hours in approved upper division courses to complete his semester or term program.

*Transfer of Graduate Credit Earned Elsewhere.* Under certain circumstances, a student who holds a bachelor's degree from Arizona State College, and who has taken graduate work at some other approved institution, may arrange to transfer as many as six semester hours of credit to be applied toward the requirements for the degree of Master of Arts in Education.

*Graduate Credit in Extension Courses.* A maximum of six semester hours of credit earned in approved graduate extension courses may be applied toward the requirements for the master's degree.

*Graduate Credit for Summer Work.* Graduate courses are offered during both terms of the summer session. All of the course requirements for the master's degree may be completed in summer residence. A maximum of six semester hours of graduate credit may be earned in a single summer term.

*Time Limit.* Graduate work, to be acceptable for credit toward the requirements for the master's degree, must be completed within a period of five years preceding the date on which the degree is conferred.

*Course Grades and Credit.* The college grading system—A, B, C, D, E, and Inc. is used to report quality of credit in graduate course work. The twenty-six semester hours of graduate credit (exclusive of thesis) accepted in fulfillment of the requirements for the master's degree shall average not lower than "B" grade. Course work, other than thesis, reported "Incomplete" must be completed within a year of the official ending of the course.



*Thesis.* A thesis is required in partial fulfillment of the requirements for the degree of Master of Arts in Education. The thesis may count for not more than four semester hours of graduate credit.

In the selection of a suitable thesis problem, the student shall be guided by his adviser. The student's adviser shall assist the student in the selection of a problem, inspect and approve the preliminary and final drafts of the thesis, and exercise general supervision over matters pertaining to the organization, development, and preparation of the study in final form.

On or before April 1, the student shall deliver to the office of the Director of Graduate Study:

1. Two typed copies (the original and the first carbon) of his complete thesis, approved and signed by his adviser.
2. Two typed copies of an abstract of his thesis approved and signed by his adviser.
3. A receipt from the Business Office for a \$5.00 deposit covering the cost of binding the two copies of his thesis.

The Director of Graduate Study will countersign the receipt covering the cost of binding to indicate that the two copies of the thesis have been accepted for binding. The two bound copies of the student's thesis shall be deposited in the College library.

*Final Examination.* Candidates for the degree of Master of Arts in Education are required to pass final written and oral examinations. Upon final approval and signature of the student's thesis, the adviser will arrange with the student dates for the examinations.

The written examination is prepared, administered, and evaluated by the student's adviser. The written examination, after being evaluated by the adviser, is filed in the office of the Director of Graduate Study.

The oral examination is conducted by a committee of three consisting of the student's adviser, his committeeman, and a member appointed by the Director of Graduate Study.

*Application for Graduation.* Following admission to candidacy for the master's degree, and not later than March 1, the student shall pay a graduation fee of \$10.00 at the Business Office of the College and shall file an application for graduation at the office of the Registrar. Blanks for this purpose may be obtained at the office of the Registrar.

*Conferring the Master's Degree.* Candidates for the degree of Master of Arts in Education are required to be present at the commencement exercises in the prescribed academic costume. Excep-

tions to this regulation shall be granted only upon petition to the Director of Graduate Study and the President of the College.

## The Graduate Offering

*Approved Graduate Courses.* Courses which have been approved for graduate credit by the Committee on the Graduate Offering and the Graduate Council constitute the graduate offering. Descriptions of these courses will be found in the departmental offerings in this catalog.

Courses open only to graduate students are numbered 300 and above. Candidates for the degree of Master of Arts in Education are required to present at least fifteen semester hours of credit, inclusive of thesis, in graduate courses numbered 300 and above. Courses numbered 200-299 followed by "g" are approved upper division courses which may be taken for graduate credit. Not to exceed fifteen semester hours of graduate credit in approved upper division courses will be accepted toward the requirements for the master's degree.

A special type of graduate work is provided through Individual Problem courses in the several departments of the College. Individual Problem courses carry the number 390 in each department. Ordinarily registration for an Individual Problem course is limited to those graduate students who have been admitted to regular standing and who have completed, or are currently registered for, five or more semester hours of graduate course work. Ordinarily not more than six semester hours of credit in Individual Problem courses will be accepted in partial fulfillment of the requirements for the master's degree.

# The Curriculums

*Grouping of Curriculums.* The curriculums offered by the college are listed under three headings: (1) Teacher-Education, (2) Preprofessional and Professional, (3) Technical and Semi-Professional. Several curriculums are found under each heading.

*Selecting a Curriculum.* Each student must designate at the time of registration the curriculum he proposes to follow. Selection of curriculums should be made with great care since a change of curriculum may retard the student's progress toward graduation. Students who have their goals well fixed on entering college have a distinct advantage over others who do not.

On entering the College, a faculty member will be assigned to each student as a curriculum adviser. See the section entitled, "Curriculum Advisers and Guidance," under the heading marked, "General Information."

*Meeting New Requirements.* When new curriculum requirements are made, students are asked to conform to them in so far as this is possible without working a hardship upon the students concerned.

*Withdrawal of Courses.* The College does not offer each year all of the courses listed in the catalog. The right is reserved to cancel any offerings if conditions justify it.

*Selection of Courses.* In any curriculum, freshmen and sophomores should select courses numbered from 100 to 199; juniors and seniors, those numbered from 200 to 299; and graduates, those numbered from 300 to 399 or those numbered 200 to 299 with a "g" attached. Exceptions may be approved by curriculum advisers.

*Individual Problem Courses.* Courses 290 and 390 may be taken only by students of high ability capable of doing independent work. The approval of the head of the department and the teacher concerned must be obtained before a student may register for these courses. Freshmen may not take individual problems courses. Not more than six semester hours in individual problems may be counted toward graduation.

*Starred Courses.* In a number of the curriculums given below, 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.

## Teacher-Education Curriculums

*Curriculums and Degrees.* There are three teacher-education curriculums: the Kindergarten-Primary, the Elementary, and the Secondary. Each of these curriculums leads to the degree of Bachelor of Arts in Education requiring 126 semester hours of work. The Secondary Curriculum provides a five year program requiring thirty additional semester hours of work, including at least six hours in Education. It gives the degree of Master of Arts in Education. Students who complete the Kindergarten Primary, or the Elementary Curriculum may also arrange a program of graduate work leading to the master's degree. Students must have a scholarship index of 1.75 or better in order to receive the bachelor's degree.

*Arizona Certification.* The State Board of Education issues the following types of certificates: (1) Kindergarten-Primary, (2) Kindergarten Elementary, (3) Elementary, (4) Pre Secondary, (5) Secondary, (6) Administrator's, (7) Special in Art, Commerce, Home Economics, Industrial Arts, Music, and Physical and Health Education. For elementary certification candidates must hold a bachelor's degree with certain prescribed work in Education and Psychology. For the secondary certificate candidates must have a master's degree or thirty semester hours of graduate work including certain prescribed courses. From five to ten semester hours of directed teaching are required for certification depending upon the type of certificate. Those desiring special certificates must take at least thirty semester hours of work in the fields chosen. Students who satisfy the requirements for bachelor's degree under the Secondary Curriculum may obtain the elementary certificate with an additional three semester hours in Ed. 230, and five hours of directed teaching in grades one to eight inclusive. They may obtain the pre secondary certificate with six hours of properly selected graduate courses.

*General Education.* It is assumed that all teachers should have a background of general knowledge and culture. Therefore, the required courses in the first two years in each teacher-education curriculum are identical. A liberal allowance has been made for electives to meet the individual student's desires and needs for services in public education.

*Majors and Minors.* No major or minor is required in the Kindergarten Primary, or the Elementary Curriculum. At least one major of at least twenty-four semester hours and one minor of at least fifteen hours in subject matter fields taught in high schools are required in the five-year Secondary Curriculum. It is recommended that students seeking the secondary certificate should complete at least

one major and two minors, and thus be prepared to teach in three or more fields. This will increase their opportunities for employment. The required subjects count toward the major or minor in all curriculums. In selecting majors and minors, such 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 Training.

Students registered under one of the teacher-education curriculums and majoring in Science, English, Social Studies, Art, Music, or Mathematics are permitted to substitute the lower division course requirements in the respective major fields for the following generalization requirements: G.S. 100 and 110; Eng. 171; Hist. 110 and 120; Art 101; Music 130; Math. 105.

*Admission to Directed Teaching.* Admission requirements for directed teaching are the following:

1. Pass a teaching entrance test.
2. Have a scholarship index of 1.75 or better.
3. Have at least a junior rank.

4. Students pursuing the Elementary or Kindergarten-Primary Curriculum must have taken Elementary Psychology and Educational Psychology before registering for practice teaching. In addition they must have taken the Elementary Curriculum and Educational Measurements or they may take them concurrently with directed teaching.

5. Students pursuing the Secondary Curriculum must have taken Elementary Psychology, Educational Psychology and Secondary School before registering for directed teaching. In addition they must have taken Educational Measurements and a course in Secondary Methods, or they may take them concurrently with practice teaching.

Directed teaching should be taken either the second semester of the junior year or the first semester of the senior year.

## Kindergarten Primary Curriculum

Leading to the degree of Bachelor of Arts in Education and to Kindergarten-Primary or Kindergarten Elementary Certification.

FRESHMAN YEAR			
First Semester	Hours	Second Semester	Hours
Eng. 101 First Year English	3		
*G. S. 100 Intro to the Physical Sciences	4	Eng. 102 First Year English	3
*Hist. 110 Growth of American Institutions	3	*G. S. 110 Intro. to the Biological Sciences	4
		*Geo 100 Elements of Geography	3

*Psych. 100 Elementary Psychology _____	3	*Ed. 120 Sociology _____	3
Physical Education activity _____	0.5	Physical Education activity _____	0.5
Electives _____	3	Electives _____	3
	16.5		16.5

## SOPHOMORE YEAR

*Speech 110 Elements of Speech _____	2	*P. E. 100 Hygiene _____	2
*Eng. 171 Introduction to Literature _____	3	*Hist. 120 World History _____	3
*Econ. 130 Introduction to Econ. _____	3	*Math. 105 Basic Mathematics _____	3
*Art 101 Introduction to Art _____	2	*Mus. 130 Introduction to Music _____	2
Physical Education activity _____	0.5	Physical Education activity _____	0.5
Electives _____	5	Electives _____	5
	15.5		15.5

## JUNIOR YEAR

Ed. 207 Lit. for the K. P. Grades _____	3	Ed. 212 Play Education and Materials _____	3
Ed. 204 Language Arts for the Lower Elementary School _____	2	Mus. 250 K. P. Music _____	2
Ed. 201 Art in K. P. School _____	2	Ed. 202 Crafts for K. P. _____	3
*Psych. 200 Educational Measurements _____	3	G. S. 231 Science for the Elementary School _____	3
Electives _____	6	Electives _____	5
	16		16

## SENIOR YEAR

*Ed. 260 Directed Teaching _____	10	Psych. 234 Child Psychology _____	3
Ed. 209 K. P. Curriculum and Teach- ing Problems _____	3	*P. S. 200 Constitutional Government _____	3
Electives _____	2	*Ed. 250g Philosophy of Ed. or *Ed. 211g History of Education _____	3
	15	Electives _____	6
			15

Note: Students desiring the kindergarten-primary certificate must follow the Kindergarten-Primary Curriculum with directed teaching in the kindergarten and grades 1, 2, or 3. Students desiring the kindergarten-elementary certificate must follow the Kindergarten-Primary Curriculum with directed teaching in the kindergarten and in grades 4 to 8, plus Ed. 214, 230, and Psych. 213.

Students qualifying for the kindergarten-primary and the kindergarten-elementary certificates must show proficiency in piano accompaniment and pass the piano tests. They must also show sufficient proficiency in sight-reading and singing to meet the needs of young children. It is recommended that students needing piano lessons begin them in the freshman year. Music 125, 126, 127, and 128 are offered to help the student meet the requirements of the piano test.

Those who are interested in Kindergarten-Primary Education but who do not desire certification may well choose from the following: Ed. 201, 202, 204, 212.

## Elementary Curriculum

Leading to the degree of Bachelor of Arts in Education and to certification for teaching in Elementary Schools of Arizona.

FRESHMAN YEAR

First Semester		Hours	Second Semester		Hours
Eng. 101 First Year English	_____	3	Eng. 102 First Year English	_____	3
*G. S. 100 Introduction to the Physical Sciences	_____	4	*G. S. 110 Introduction to the Biological Sciences	_____	4
*Hist. 110 Growth of American Institutions	_____	3	*Geog. 100 Elements of Geography	_____	3
*Psych. 100 Elementary Psychology	_____	3	*Ed. 120 Sociology	_____	3
Physical Education activity	_____	0.5	Physical Education activity	_____	0.5
Electives	_____	3	Electives	_____	3
<hr/>			<hr/>		
16.5			16.5		

SOPHOMORE YEAR

*Speech 110 Elements of Speech	_____	2	*P. E. 100 Hygiene	_____	2
*Eng. 171 Introduction to Literature	_____	3	*Hist. 120 World History	_____	3
*Econ. 130 Introduction to Econ.	_____	3	*Math. 105 Basic Mathematics	_____	3
*Art 101 Introduction to Art	_____	2	*Mus. 130 Introduction to Music	_____	2
Physical Education activity	_____	0.5	Physical Education activity	_____	0.5
Electives	_____	5	Electives	_____	5
<hr/>			<hr/>		
15.5			15.5		

JUNIOR YEAR

*Psych. 200 Ed. Measurements	_____	3	*Psych. 213 Ed. Psychology	_____	3
*Ed. 214 Language Arts for Upper Elementary School	_____	2	*P. E. 220 Playground Leadership	_____	2
*Ed. 204 Language Arts for Lower Elementary School	_____	2	*Ed. 260 Directed Teaching	_____	10
Electives	_____	9			
<hr/>			<hr/>		
16			15		

SENIOR YEAR

*Ed. 211g History of Education or			*P. S. 200 Constitutional Government	_____	3
*Ed. 250g Philosophy of Ed.	_____	3	*Art 210 Public School Art	_____	2
*Ed. 230 Elementary Curriculum and Teaching Techniques	_____	3	Electives	_____	10
Electives	_____	10			
<hr/>			<hr/>		
16			15		

Secondary Curriculum

Leading to the degree of Bachelor of Arts and Master of Arts in Education and to certification for teaching in Secondary Schools of Arizona.

FRESHMAN YEAR

First Semester		Hours	Second Semester		Hours
Eng. 101 First Year English	_____	3	Eng. 102 First Year English	_____	3
*G. S. 100 Introduction to the Physical Sciences	_____	4	*G. S. 110 Introduction to the Biological Sciences	_____	4
*Hist. 110 Growth of American Institutions	_____	3	*Geog. 100 Elements of Geography	_____	3
*Psych. 100 Elementary Psychology	_____	3	*Ed. 120 Sociology	_____	3
Physical Education activity	_____	0.5	Physical Education activity	_____	0.5
Major, minor, or elective	_____	3	Major, minor, or elective	_____	3
<hr/>			<hr/>		
16.5			16.5		

## SOPHOMORE YEAR

*Speech 110 Elements of Speech _____	2	*P. E. 100 Hygiene _____	2
*Eng. 171 Introduction to Literature _____	3	*Hist. 120 World History _____	3
*Econ. 130 Introduction to Econ. _____	3	*Math. 105 Basic Mathematics _____	3
*Art 101 Introduction to Art _____	2	*Mus. 130 Introduction to Music _____	2
Physical Education activity _____	0.5	Physical Education activity _____	0.5
Major, minor, or elective _____	5	Major, minor, or elective _____	5
	<u>15.5</u>		<u>15.5</u>

## JUNIOR YEAR

*Psych. 213 Educational Psychology _____	3	*Psych. 200 Ed. Measurements _____	3
Ed. 215 Secondary School _____	3	†Ed. 228 Methods of Teaching in Secondary Schools _____	3
Education elective _____	2	Education elective _____	2
Major, minor, or electives _____	8	Major, minor, or electives _____	8
	<u>16</u>		<u>16</u>

## SENIOR YEAR

*Ed. 260 Directed Teaching _____	5	*Ed. 250g Philosophy of Ed. or *Ed. 211g Hist. of Education _____	3
Major, minor, or electives _____	10	*P. S. 200 Constitutional Government _____	3
	<u>15</u>	Major, minor, or electives _____	9
			<u>15</u>

## GRADUATE YEAR

Ed. 300 Thesis Preparation _____	2	*Thesis _____	4
Electives _____	13	Electives _____	11
	<u>15</u>		<u>15</u>

† Students may substitute the special methods course given in their departments for this requirement

\* Courses marked with an asterisk may be taken either semester.

## Arts and Sciences Curriculums

Below there are given in parallel columns the requirements for the Bachelor of Arts and the Bachelor of Science degrees. A total of 126 semester hours of credit is required for graduation with either one of these degrees. For either degree the candidate must meet the Generalization Requirements of 40-48 semester hours, and the Concentration Requirements of at least 36 semester hours as outlined below, and take the remaining hours in electives. The figures given below in parentheses indicate the required minimum number of semester hours.

### Generalization Requirements

#### For the B. A. Degree (48)

Eng. 101, 102 First Yr. English (6)  
Foreign Language (8)

#### For the B. S. Degree (40)

Eng. 101, 102 First Yr. English (6)  
Foreign Language (Optional)



The foreign language requirement may be met by completing satisfactorily one of the following courses: Span. 102, Ger. 102, Fr. 102, Rus. 102, Lat. 102. Students who have received a grade of C or above for three years' work in one high school foreign language or who can show the equivalent by examination, are exempt from this requirement.

P E 10 Hygiene (2)  
P E    Activity (2)

P E 10 Hygiene (2)  
P E    Activity (2)

**Humanities (6)**

Art 101 Introduction to Art (2)  
Eng. 171 Introduction to Lit. (3)  
Mus. 130 Introduction to Music (2)  
Phil. 20 Introduction to Philos. (3)

**Humanities (6)**

In Art Literature Music, Philosophy  
Speech. (Not more than 3 semester hours  
in any one subject)

Eng. 151, 152, or 221 222, or 153 may be substituted for Eng 171.

**Social Science (12)**

Econ. 130 Introduction to Econ (3)  
Hist. 102 Western Civilization (3)  
Hist 104 U. S. Since Civil War (3)  
Psych 100 Elementary Psych (3)  
Soc 120 Sociology (3)

**Social Science (12)**

In Economics History, Political Science,  
Psychology, Sociology Geography. (Not  
more than 6 semester hours in any one  
subject.)

Hist. 120 may be substituted for Hist. 102, and Hist. 110 for Hist. 104.

**Science and Mathematics (11)**

G. S 100 Introd. to Phys Science (4)  
G S 110 Intr d to Biol. Science (4)  
Math 105 Basic Mathematics (3)

**Science and Mathematics (12)**

In Biology, Chemistry, Geography, Math-  
ematics, Physics (Not more than 8  
semester hours in any one subject.)

Chem 110 or 111 112 or Phys. 111 112 may be substituted for G S. 100

Biol. 130 or 140 may be substituted for G S 110. Math. 210 may be substituted for  
Math 105

## Concentration Requirements

A. Not later than the beginning of the junior year, each student will be required to designate an area of concentration.

B. An area of concentration shall consist of at least 36 semester hours of credit in related courses, in addition to the required generalization courses. When a course listed under the generalization requirements falls within a student's area of concentration, he may, upon approval of his adviser, substitute another course within the same subject-field.

C. The 36 or more semester hours of course work in the area of concentration shall consist of:

1. From 15 to 24 semester hours in a single department or departmental subdivision as described in the catalog.

2. At least 15 of the 36 semester hours from upper division courses.

3. A required sequence or pattern of related courses.

4. A pattern of related optional courses, designed to meet individual needs, to be selected under the guidance of an adviser from a list of recommended courses.

D. Areas of concentration to be offered leading to bachelors' degrees in arts and sciences are:

FOR THE B. A. DEGREE		FOR THE B. S. DEGREE	
<i>Department</i>	<i>Concentration Area</i>	<i>Department</i>	<i>Concentration Area</i>
Art	<i>Fine Arts</i>	Commerce	<i>Accounting General Business Administration Secretarial Science</i>
English	<i>English</i>		
Foreign Language	<i>Spanish</i>	Education and Others	<i>Social Welfare</i>
Mathematics	<i>Mathematics</i>	Psychology and Others	<i>Human Growth and Adjustment</i>
Music	<i>Music</i>	Home Economics	<i>General Home Economics</i>
Sciences	<i>Physical Sciences Biological Sciences</i>	Industrial Arts	<i>Industrial Arts</i>
		Mathematics	<i>Mathematics</i>
		Physical Education	<i>Physical Education</i>
Social Studies	<i>Social Studies</i>	Sciences	<i>Physical Sciences Biological Sciences</i>

### 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.

## Preprofessional and Professional Curriculums

The curriculums outlined below meet the needs of two classes of students: those who desire one, two, or more years of work before transferring to a professional school such as Law, Dentistry, or Medicine, and those who wish to obtain a degree without certification as a teacher.

The basic college courses necessary for entering professional schools are given as a part of the regular program of the education of teachers, and do not involve additional cost to the state. Credits earned in these courses, if properly selected, can be transferred without loss to schools of Agriculture, Engineering, Law, Medicine, and other fields in which students plan to complete their work. Thus many students find it both economical and convenient to take one, two, three, and in some cases four years of work.

The following curriculums are arranged so that the general requirements of most of the schools are met. It is important that each student obtain a catalog of the institution to which he plans to transfer, and consult his adviser so that his course of study may be planned most wisely.

### Pre-Agriculture, Pre-Veterinary, Pre-Forestry

The requirements for the first two years of agriculture, 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.

<b>FIRST YEAR</b>			
First Semester	Hours	Second Semester	Hours
Eng. 101 First Year English _____	3	Eng. 102 First Year English _____	3
Biol. 140 General Zoology _____	4	Biol. 130 General College Botany _____	4
Chem. 111 Gen. College Chemistry _____	4	Chem. 102 or 112 Gen. College Chemistry _____	4
Ag. 101 Crop Production _____	2	Ag. 108 Forage Crops _____	3
Ag. 107 Animal Industry _____	4	Physical Education activity _____	0.5
Physical Education activity _____	0.5	Electives _____	3
	17.5		17.5
<b>SECOND YEAR</b>			
Biol. 133 Plant Anatomy _____	4	Biol. 134 Plant Physiology _____	4
Biol. 183 Gen. Bacteriology _____	4	Chem. 180 El. Organic Chemistry _____	4
*Econ. 130 Introduction to Econ. _____	3	Electives chosen from Ag. 114, 116, 123, 126, 143 and Phys. 112 _____	8
Phys. 111 Gen. College Physics _____	4	Physical Education Activity _____	0.5
Ag. 125 Principles of Horticulture _____	2		
Physical Education activity _____	0.5		
	17.5		16.5

## Pre-Dental

The following two-year curriculum will satisfy the general requirements for entrance to most dental schools. The selection of electives should be based on the requirements of the catalog of the school at which the student plans to complete his dental training. If three or four years of pre-dental training is desired it is suggested that the pre-medical curriculum be followed.

FIRST YEAR					
First Semester		Hours	Second Semester		Hours
Eng. 101 First Year English	_____	3	Eng. 102 First Year English	_____	3
Chem. 111 General College Chemistry	_____	4	Chem. 112 General College Chemistry	_____	4
Biol. 140 General Zoology	_____	4	Biol. 163 Comparative Anatomy	_____	4
Foreign Language or elective	_____	4	Foreign Language or elective	_____	4
Physical Education activity	_____	0.5	Physical Education activity	_____	0.5
		15.5			15.5
SECOND YEAR					
Biol. 193 General Bacteriology	_____	4	Chem. 180 El. Organic Chemistry	_____	4
Phys. 111 General College Physics	_____	4	Phys. 112 General College Physics	_____	4
Ed. 120 Sociology	_____	3	Psych. 100 Elementary Psychology	_____	3
Foreign Language or elective	_____	4	Foreign Language or elective	_____	4
Physical Education activity	_____	0.5	Physical Education activity	_____	0.5
		15.5			15.5

## Pre-Dietetics

The following curriculum will meet the lower division requirements for most dietetics courses.

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	_____	4
H. Ec. 101 Elementary Nutrition	_____	2	*Ed. 120 Sociology	_____	3
*Psych. 100 Elementary Psychology	_____	3	H. Ec. 102 Clothing Selection	_____	3
*P. E. 100 Hygiene	_____	2	Physical Education activity	_____	0.5
Physical Education activity	_____	0.5	*G. S. 110 Introduction to Biological Science	_____	4
Speech 110 Elements of Speech	_____	2			17.5
		18.5			
SECOND YEAR					
First Semester		Hours	Second Semester		Hours
Chem. 211g General Organic Chemistry, or	_____	5	Chem. 212g General Organic Chemistry, or	_____	5
Chem. 142 Elementary Quantitative Analysis	_____	4	Chem. 180 Elementary Organic Chemistry	_____	4
H. Ec. 105 Applied Food Principles	_____	3	H. Ec. 206g Food for Family	_____	3
Biol. 171 Human Anatomy	_____	3	Biol. 172 Human Physiology	_____	3
Eng. 171 Introduction to Literature	_____	3	Social Science elective	_____	3
Social Science elective	_____	3	*Econ. 130 Introduction to Economics	_____	3
Physical Education activity	_____	0.5	Physical Education activity	_____	0.5
		16.5 or 17.5			16.5 or 17.5

## 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 College Chemistry _____	4	Chem. 112 General College Chemistry _____	4
Math. 107 College Algebra _____	3	Math. 120 Analytic Geometry _____	4
Math. 118 Plane Trigonometry _____	2	I. A. 114 Descriptive Geometry _____	3
I. A. 113 Mechanical Drawing _____	3	I. A. 109 Calculations _____	3
Econ. 130 Introduction to Econ. _____	3	Physical Education activity _____	0.5
Physical Education activity _____	0.5		
	<b>18.5</b>		<b>17.5</b>

**SECOND YEAR**

I. A. 155 Mechanisms _____	3	I. A. 156 Machine Design _____	3
Math. 122 Differential Calculus _____	4	Math. 123 Integral Calculus _____	4
Phys. 111 General College Physics _____	4	Phys. 112 General College Physics _____	4
Physical Education activity _____	0.5	Physical Education activity _____	0.5
Electives chosen from I. A. 145, Chem. 131, Com. 101, 205, Geol. 151 _____	6	Electives chosen from I. A. 100, Com. 101, 206 _____	6
	<b>17.5</b>		<b>17.5</b>

**Pre-Law**

The requirements for admission to law schools vary from a minimum of two years of pre-legal college work to a college degree. The American Bar Association has prescribed a minimum of two years. However, higher standards are required by many of the leading law schools. The pre-law student should obtain a copy of the catalog of the law school that he plans to attend and he should plan his course of study under the guidance of the pre-legal adviser at this College.

Most law schools now recommend courses in accounting, taxes, finance, and other business administration courses. Many universities now offer a six-year program leading to a bachelor's degree in business administration at the end of the fourth year and the degree of Bachelor of Law at the end of the sixth year. Because of the ever-increasing importance of training in the field of business for present-day law practice, the student is urged to give serious consideration to the combined program of Business Administration and Law.

The following two-year, pre-legal curriculum is presented merely as an aid to the student in planning his course of study in accordance with the foregoing suggestions.

FIRST YEAR			
First Semester	Hours	Second Semester	Hours
Eng. 101 First Year English _____	3	Eng. 102 First Year English _____	3
Com. 101 Elementary Accounting _____	4	Com. 102 Elementary Accounting _____	4
*Psych. 100 Elementary Psychology _____	3	*Ed. 120 Sociology _____	3
Social Science elective _____	3	*Hist. 110 Growth of American Insti- tutions _____	3
Elective _____	3	Elective _____	3
Physical Education activity _____	0.5	Physical Education activity _____	0.5
_____		_____	
16.5		16.5	
SECOND YEAR			
Com. 205 Business Law _____	3	Com. 208 Business Law _____	3
Econ. 130 Introduction to Economics _____	3	Econ. 132 Current Economic Problems _____	3
Science elective _____	4	Science elective _____	4
Electives _____	6	Speech 220 Public Speaking _____	2
Physical Education activity _____	0.5	Electives _____	4
_____		Physical Education activity _____	0.5
16.5		16.5	

## Medical Technology

The following curriculum meets the needs of those specializing in Medical Technology. It is ranked Class A by the American Medical Association. The work of the senior year is given at St. Joseph's Hospital, Phoenix. At the conclusion of the fourth year, the student will take an examination formulated by the Board of Registry of the American Society of Clinical Pathologists. Upon the successful completion of this four-year curriculum the student will be granted the degree of Bachelor of Science. Through the W. K. Kellogg Foundation worthy students in Medical Technology may obtain loans of money and scholarships. Fee, \$10.00 per month at hospital plus college registration.

FIRST YEAR			
First Semester	Hours	Second Semester	Hours
Eng. 101 First Year English _____	3	Eng. 102 First Year English _____	3
Chem. 101 Intro. College Chemistry or 111 Gen. College Chemistry _____	4	Chem. 102 Introd. College Chemistry or 112 General College Chemistry _____	4
Biol. 140 Gen. Zoology _____	4	Biol. 130 Gen. College Botany _____	4
Ed. 120 Sociology _____	3	Psych. 100 Elementary Psychology _____	3
P. E. 100 Hygiene _____	2	Humanities Elective _____	2
Physical Education Activity _____	0.5	Physical Education Activity _____	0.5
_____		_____	
16.5		16.5	
SECOND YEAR			
Chem. 131 Quantitative Analysis _____	4	Chem. 142 Quantitative Analysis _____	4
Econ. 130 Intro. to Economics _____	3	Soc. Studies elective _____	3
Chem. 180 Elem. Organic Chemistry _____	4	Biol. 163 Comparative Anatomy _____	4
Humanities Elective _____	2	Humanities Elective _____	2
Mathematics _____	3	Elective _____	2
Physical Education Activity _____	0.5	Physical Education Activity _____	0.5
_____		_____	
16.5		15.5	
THIRD YEAR			
Phys. 111 General College Physics _____	4	Phy. 112 General College Physics _____	4
Biol. 183 General Bacteriology _____	4	Chem. 280 Biochemistry or restricted science elective _____	4
Biol. 171 Human Anatomy _____	3	Biol. 172 Human Physiology _____	3
Elective _____	4	Elective _____	4
_____		_____	
15		15	

**FOURTH YEAR**

Biol. 240 Laboratory Techniques _____	4	Biol. 250 Histology _____	4
Biol. 225 Pathogenic Bacteriology _____	4	Biol. 265 Serology _____	2
Chem. 282a Biochemistry _____	4	Biol. 271 Parasitology _____	2
Biol. 273 Hematology _____	4	Chem. 284 Blood Chemistry _____	4
		Chem. 286 Urinalysis _____	2
		Chem. 288 Chemistry of Digestion _____	2
	<hr/>		<hr/>
	16		16

Pre-Medical

The minimum requirement for admission to accredited medical schools is a four-year high school education and two, three, and in some cases four years of work in general education leading to a Bachelor of Science or Bachelor of Arts degree. A three-year curriculum is offered for the guidance of the pre-medical student, but he may complete two, three or four years of the following program to meet the specific requirements of the medical school that he plans to attend. A student who plans to take this curriculum should bring a catalog of the medical school selected and consult with the pre-medical adviser.

**FIRST YEAR**

First Semester	Hours	Second Semester	Hours
Eng. 101 First Year English _____	3	Eng. 102 First Year English _____	3
Biol. 140 General Zoology _____	4	Biol. 130 General College Botany _____	4
Chem. 101 Intro. to College Chemistry, or 111 General College Chemistry _____	4	Chem. 102 Intro. to College Chemistry or 112 General College Chemistry _____	4
P. E. 100 Hygiene _____	2	Art 101 Intro. to Art _____	2
Math 106 or 107 Algebra _____	3	Com. 130 Intro. to Economics _____	3
Physical Education Activity _____	0.5	Physical Education Activity _____	0.5
	<hr/>		<hr/>
	16.5		16.5

**SECOND YEAR**

Foreign Language _____	4	Foreign Language _____	4
Chem. 131 Qualitative Analysis _____	4	Chem. 142 Quantitative Analysis _____	4
Biol. 163 Comparative Anatomy _____	4	Biol. 183 General Bacteriology _____	4
Psych. 100 Elementary Psychology _____	3	Ed. 120 Sociology _____	3
Physical Education Activity _____	0.5	Physical Education Activity _____	0.5
	<hr/>		<hr/>
	15.5		15.5

**THIRD YEAR**

Chem. 211 General Organic Chemistry _____	4	Chem. 212 General Organic Chemistry _____	4
Phy. 111 General College Physics _____	4	Phy. 112 General College Physics _____	4
Biol. 204 Genetics _____	3	Biol. 234 Embryology _____	4
Social Studies elective _____	3	Elective _____	3
Humanities elective _____	2		
	<hr/>		<hr/>
	16		15

**FOURTH YEAR**

Students who plan to complete the Bachelor's degree should take the following in their senior year.

Foreign Language or restricted elective _____	4	Foreign Language or restricted elective _____	4
Chem. 280 Biochemistry _____	4	Biol. 238 Parasitology _____	4
Humanities elective _____	2	Electives _____	8
Electives _____	5		
	<hr/>		<hr/>
	15		16

## Nursing and Pre-Nursing Curriculums

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
*Ed. 120 Sociology _____	3	*Psych. 100 Elementary Psychology _____	3
H. Ec. 101 Elementary Nutrition _____	2	Zoology or Bacteriology _____	4
Chem. 110 Introduction to College Chemistry _____	4	Elective _____	3
Biol. 171 Human Anatomy _____	3	Biol. 172 Human Physiology _____	3
Physical Education activity _____	0.5	Physical Education activity _____	0.5
	15.5		16.5

### 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
*Ed. 120 Sociology _____	3	*Psych. 100 Elementary Psychology _____	3
Chem. 100 Introduction to College Chemistry _____	4	Chem. 180 Organic Chemistry _____	4
H. Ec. 101 Elementary Nutrition _____	2	Biol. 140 General Zoology _____	4
Elective _____	3	Elective _____	3
Physical Education activity _____	0.5	Physical Education activity _____	0.5
	15.5		17.5

#### SECOND YEAR

*Eng. 171 Introduction to Literature _____	3	Speech 120 Elements of Speech _____	2
Biol. 171 Human Anatomy _____	3	Biol. 172 Human Physiology _____	3
Social Science elective _____	3	Social Science elective _____	3
H. Ec. 105 Applied Food Principles _____	3	Electives _____	7
Biol. 183 General Bacteriology _____	4	Physical Education activity _____	0.5
Physical Education activity _____	0.5		
	16.5		16.5

### DEGREE CURRICULUM IN NURSING

A degree curriculum in nursing is offered which combines a general college program and a basic professional 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.



Students of the first group may expect to complete all of the requirements under this curriculum within a five-year period. Registered nurses who are graduates of approved three-year nursing schools and who have not had college work may satisfy the requirements for the Bachelor of Science degree under this curriculum with two and one-half years of regular college work.

This combined program of college and professional training in nursing will increase the opportunities for placement in hospitals and elsewhere in administrative, supervisory, and teaching positions. This curriculum has been approved by the Arizona State Board of Nurses.

Students without nursing training will take general college courses at the College during the first three semesters. These students will meet the regular requirements for admission to the College. The basic training in professional nursing is given during the next five semesters at the Good Samaritan Hospital in Phoenix. The final year is spent at the College. As a prerequisite for admission to the final year in residence at the College, the student must pass the Arizona State Board examinations in nursing. Upon the satisfactory completion of the college and nursing school requirements for this curriculum, the student is eligible for graduation with the bachelor's degree.

Graduates of accredited three-year training schools for nurses will, in addition to meeting the regular admission requirements, file with the Registrar well in advance of registration not only official transcripts of high school credits and of college credits earned elsewhere, but also an official transcript of record of training completed in an approved school of nursing and a certified statement from the Arizona State Board of Nurse Examiners that the student was granted registration and holds a currently valid license to practice professional nursing in Arizona. Upon the acceptance of these credentials, advanced standing credit, not to exceed 46 semester hours, including credit for hygiene, will be granted for work completed in an approved school of nursing toward the requirements for the Bachelor of Science degree under this curriculum.

## FIRST YEAR

First Semester	Hours	Second Semester	Hours
Chem. 101 Intro. to College Chemistry _____	4	Chem. 180 Elem. Organic Chem. _____	4
*Psych. 100 Elem. Psychology _____	3	*Ed. 120 Sociology _____	3
Eng. 101 Freshman English _____	3	Eng. 102 Freshman English _____	3
Biol. 171 Human Anatomy _____	3	Biol. 172 Human Physiology _____	3
Mathematics elective _____	3	H. Ec. 101 Elementary Nutrition _____	2
Physical Education Activity _____	0.5	Physical Education Activity _____	0.5
	16.5		16.5

**SECOND YEAR**

Biol. 183 Gen. Bacteriology _____	4	
H. Ec. 105 Applied Food Principles _____	3	
Eng. 110 Elements of Speech _____	2	
Eng. 171 Introduction to Literature _____	3	Hospital (In professional nurses' training course)
G. S. 110 Intro. to Biology, or Biol. 140 General Zoology _____	4	
Physical Education Activity _____	0.5	

16.5

**THIRD YEAR**

Hospital (In professional nurses' training course)

**FOURTH YEAR**

Hospital (In professional nurses' training course)

**FIFTH YEAR**

Social Studies Elective _____	3	Social Studies Elective _____	3
Humanities elective _____	2	Biol. 204 Genetics or Chem. 280 Biochemistry or Restricted science elective _____	3
Major or electives _____	11	Major or electives _____	10

16

16

Electives are to be chosen under the guidance of the advisers in the following fields: English, Education, Psychology, Home Economics, Physical Education and Science.

The major is to be chosen under the guidance of the curriculum adviser in one of the following fields: English, Education, Psychology, Education and Psychology, Home Economics, Foreign Languages, or Science.

Graduates of accredited three-year training schools of nursing who have been admitted to this curriculum may be permitted to take electives in place of Biol. 171-2, Human Anatomy and Physiology; H. Ec. 101, Nutrition; H. Ec. 105, Applied Food Principles; and Math. 105, Basic Mathematics.

**Pre-Optometry**

The following program meets the entrance requirements of most schools of optometry.

**FIRST YEAR**

First Semester	Hours	Second Semester	Hours
Eng. 101 First Year English _____	3	Eng. 102 or 1st Year English _____	3
Chem. 101 or 111 College Chemistry _____	4	Chem. 101 or 111 College Chemistry _____	4
Psych. 100 Elementary Psychology _____	3	Ed. 120 Sociology _____	3
Math. 106 or 107 Algebra _____	3	Math. 118 Trigonometry _____	3
Electives _____	3	Electives _____	3
Physical Education Activity _____	0.5	Physical Education Activity _____	0.5

16.5

16.5

**SECOND YEAR**

Phys. 111 General College Physics _____	4	Phys. 112 General College Physics _____	4
Biol. 140 General Zoology _____	4	Biol. 163 Comparative Anatomy _____	4
Spch. 110 Elements of Speech _____	2	P. E. 100 Hygiene _____	2
Social Science elective _____	3	Social Science elective _____	3
Elective _____	3	Elective _____	3
Physical Education Activity _____	0.5	Physical Education Activity _____	0.5

16.5

16.5

## Social Welfare

The following two-year curriculum is designed for students who plan to specialize in social or religious service. It may be expanded to three or four years by selecting the proper sequence of required and elective courses. The student should analyze the bulletin of the institution which he plans to attend so as to be able to alter the following program to meet his individual needs.

### FIRST YEAR

First Semester	Hours	Second Semester	Hours
Eng. 101 First Year English _____	3	Eng. 102 First Year English _____	3
Spanish or elective _____	4	Spanish or elective _____	4
*G. S. 100 Intro. to Physical Science _____	4	*G. S. 110 Intro. to Biol. Science _____	4
*Ed. 120 Sociology _____	3	*Psych. 100 Elementary Psychology _____	3
P. E. 100 Hygiene _____	2	Elective _____	3
Physical Education activity _____	0.5	Physical Education activity _____	0.5
	<b>16.5</b>		<b>17.5</b>

### SECOND YEAR

*Eng. 171 Introduction to Literature _____	3	Eng. 154 World Literature _____	3
Social Science elective _____	3	Social Science elective _____	3
Spanish or elective _____	4	Spanish or elective _____	4
Physical Education activity _____	0.5	Physical Education activity _____	0.5
Electives chosen from Eng., Econ., Psych., Ed., Soc. Sci. _____	6	Electives chosen from Eng., Econ., Psych., Ed., Soc. Sci. _____	6
	<b>16.5</b>		<b>16.5</b>

## Technical and Semi-Professional Curriculums

There is a growing demand for practical curriculums which do not lead to graduation, but are designed to give the student the background of skills needed for entrance into his chosen vocation. These curriculums appeal to returning veterans and many others. They may consist of very few or many courses requiring one or more semesters to complete them. The courses composing these short curriculums vary to fit the background and needs of the student concerned. Students interested in these curriculums should consult the curriculum advisers in the departments concerned for help in planning their programs.

# Department of Agriculture

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JUDD (Head of the Department), MORTENSEN, FULLER, RIGGINS

*Purpose.* The Department of Agriculture is organized for the following purposes: (1) to give students who plan to teach in rural communities a knowledge of agricultural problems; (2) to provide a broad foundation for those who later wish to study in specialized fields of agriculture at other institutions; (3) to offer courses in applied agriculture to meet the needs of those expecting to enter the production and industrial fields of agriculture. This provides a program for vocational rehabilitation meeting the needs of those desiring special work in agriculture and farm mechanics.

The courses offered for (1) and (2) include the generally accepted standard prerequisites for advanced study and research in all phases of agriculture. Many of these courses are prerequisites for appointment in various biological surveys, soil and game conservation, and other Federal projects.

*Applied Agriculture.* These courses are offered with the cooperation of the Veterans' Administration and the State Department of Vocational Education. They aim to give the student proficiency in the particular job or phase of work chosen. A full course runs twelve months and requires about six hours of work daily. Fractional courses may also be taken. Courses numbered from 1 to 99 do not give college credit. Those desiring college credit must register for the regular college courses numbered 100 or above.

The following non-credit courses have been approved by the Veterans' Administration and will be offered by the College: Armature Winder, Repair; Auto Mechanic Helper; Automobile Body Repairman, Metal; Batteryman, repairman; Carpenter Apprentice; Dairy Farmer; Dairy Farm Hand; Milk Tester; Farmer, cash grain; Farm Hand, General; Hay Farmer; Hog Raiser; Irrigator; Milker, hand; Milking Machine Operator; Pasteurizer, Milk tester; Pasteurizer Assistant; Poultry Farmer; Truck Gardener.

Classes in Farm Management, Farm Records, Feeds and Feeding, Range Management, and other classes will be organized when needed. Through the cooperation of business concerns, instruction in processing milk products, grain milling, ginning of cotton, and neat packing may be offered. In these courses formal class instruction is reduced to a minimum, being provided largely through consultation and on-the-job visits.

The enterprises of the College Farm will serve as training centers. In general, a minimum of one year should be devoted to most of the courses. However, the length of courses may need to be modified to fit the backgrounds and abilities of the students.

*4-H Club Leaders.* Students majoring in another department may qualify also as teachers of elementary science and agriculture and as 4 H club leaders in the elementary schools by completing a minor in this department.

*The Livestock Farm.* The farm is located a mile south of the campus, on a thirty five acre tract with a modern farm home, new dairy buildings and equipment, and a modern hog unit. A selected herd of registered dairy cows supplies milk for the college dining hall. This herd, with the registered sheep and swine herds, provide excellent opportunities for students to gain first hand information and experience in livestock problems.

*Suggested Sequences.* It is suggested that the following courses be taken during the first or second year: Biol. 130, 140, 203; Ag. 101, 102, 107, 114, 116, 125, 126; Chem. 101-102 or 111-112, 180, and the following during the third or fourth year: Biol. 133, 134, 204; Ag. 143, 144, 185, 186, 213, 216, 219, 222, 224.

## Courses In Agriculture

**Ag. 101 *Crop Production.*** A study of the principles of field crop production with special emphasis on cultural practices for crop production especially for those crops grown in the state. Fee, \$2.00. One lecture and one 3 hour laboratory or field work a week. Credit, 2 hours.

**102 *Forage Crops.*** The principal forage crops of the United States, including legumes, corn, sorghums, and grasses, with particular reference to the Southwest. Fee, \$2.00. Two lectures and one 3 hour laboratory period. Credit, 3 hours.

**107 *Principles of Animal Husbandry.*** The fundamental principles underlying livestock management and production; score card and judging practices. Prerequisite to all other animal husbandry courses. Fee, \$1.00. One lecture and two hours laboratory. Credit, 2 hours.

**108 *The Breeds of Livestock.*** Characteristics of the breeds of farm animals; origin, history, and development; adaptability to the southwest; pedigree studies. Two lectures a week. Credit, 2 hours.

**114 *Dairy Husbandry.*** A study of dairy farm management; methods of feeding, breeding and herd improvement; pedigree and other methods of animal selection; calf raising and dairy equipment; and

the more common dairy cow diseases. Fee, \$1.00. Three hours of lecture or its equivalent in dairy survey and field work. Credit, 3 hours.

116 *Poultry Husbandry*. Includes the general principles of poultry management in large and small units, and the application of these principles to local and regional conditions. Alternates with Ag. 114. Three hours of lecture or its equivalent in field work. Credit, 3 hours.

124 *Vegetable Crops*. Areas of production and cultural practices of the leading vegetable crops of the U. S. Special emphasis on the year-round home vegetable garden. Prerequisites: Ag. 108 and Biol. 130. One lecture, and three hours field work. Credit, 3 hours.

125 *Principles of Horticulture*. The general principles of plant propagation. Nursery practices in the production of fruit and ornamental stock. Planting and care of orchards and home grounds. Prerequisite: Biol. 130. Fee, \$1.00. One lecture and three hours of laboratory or field work a week. Credit, 2 hours.

126 *Practical Horticulture*. A continuation of Ag. 125 with emphasis upon ornamental trees and shrubs, flowering plants, and landscaping. Prerequisite: Ag. 125. Fee, \$1.00. One lecture and three hours of laboratory or field work a week. Credit, 2 hours.

143 *Soils*. The formation, classification, and properties of soils; the relation of the properties of soils to crop production; cultural practices in soil conservation. Prerequisite: one course in college chemistry. Fee, \$2.00. Two lectures and three hours laboratory work a week. Credit, 3 hours.

144 *Irrigation Principles and Practices*. A continuation of Ag. 143. Brief history of irrigation; present extent and importance; water relations of crop plants; water measurements; and methods of application, conservation and use of irrigation water. Prerequisite: Ag. 143. Fee, \$2.00. Three lectures a week. Credit, 3 hours.

185 *Animal Nutrition and Applied Feeding*. Includes the principles of feeding, composition of feeds, physiology of nutrition, and practice in formulating rations for various classes of livestock. Evaluation of feeds and feeding practices current in Arizona. Prerequisite: Ag. 107 and one year of college chemistry. Fee, \$2.00. Three lectures a week. Credit, 3 hours.

186 *Farm Organization and Management*. Principles governing the economic and regional selection of the farm. Factors involved in profitable farm management; crop selection and acreage; diversifica-

tion of effort; capital utilization; cost accounting; rural bookkeeping and analysis of labor income. Fee, \$2.00. Three lectures a week. Credit, 3 hours.

202 *Livestock Production*. The production, care, and management of farm livestock. 3 hours lecture, or its equivalent in laboratory and field work. Fee, \$1.00. Credit, 3 hours.

206 *Market Milk*. The classes of market milk, methods used in clean milk production, systems of milk inspection, and scoring of dairies. Three hour lectures or its equivalent in laboratory and field work. Prerequisite Biol. 183. Fee, \$1.00. Credit, 3 hours.

208 *Livestock Judging*. A detailed study in various breeds of livestock. Trips are made to stock farms, ranches, and livestock fairs. One lecture and one laboratory. Fee, \$1.00. Credit, 2 hours.

212 *Commercial Vegetable Crops*. Soil practices, cultural methods, harvesting and marketing of leading truck crops of the Southwest. Alternates with Ag. 123. Prerequisite: Ag. 130. One lecture and six hours field work. Credit, 3 hours.

213g *Plant Ecology*. Origin and development of vegetation and measurements in the field of the factors of environment with applications to agriculture, forestry, grazing, and general crop production. Prerequisite: Biol. 130. Fee, \$2.00. Three lectures and one laboratory period a week. Credit, 4 hours.

216g *Plant Breeding*. The principles and practices of plant breeding; technique and improvements by selection and hybridization. Prerequisites: Ag. 108, Biol. 130, 204. Fee, \$2.00. Three lectures a week. Credit, 3 hours.

219g *Animal Breeding*. The principles of genetics are applied to the problems and techniques of animal breeding. Includes the study of pedigrees, line-breeding, inbreeding, out cross, hybridization, and breeding indices. Prerequisites: Biol. 140, 204. Three lectures a week.

230 *Soil Conservation*. The study of soil management as a conservation agency. One lecture and one 3 hour laboratory period. Fee, \$2.00. Credit, 2 hours.

246 *Range Management*. Development of the range industry; grazing regions; production and utilization of range forage; range improvement; range reconnaissance and management plans; the principal range plants of Arizona; and field trips in cooperation with the U. S. Forest Service. Prerequisites: Ag. 107, Biol. 130. Fee, \$5.00. Two lectures and one three-hour laboratory period a week. Credit, 3 hours.

The following courses in agricultural mechanics will be taught at the farm shops located on Mill Avenue, one half mile south of Tempe.

Ag. Mech. 102 *Farm Blacksmithing*. Forge and blacksmith work in tempering, hardening and repairing machinery. Fee, \$8.00. Credit, 2 hours.

106 *Farm Machinery Repair and Construction*. Care, repair and construction of farm machinery. Fee, \$16.00. Credit, 4 hours.

108 *Farmstead Electricity*. Principles of electricity and simple farmstead wiring. Fee, \$8.00. Credit, 2 hours.

110 *Ignition and Carburetion*. Ignition trouble shooting, testing and adjusting. Carburetor adjustment and repair. Fee, \$8.00 per credit hour. Credit, 2 hours.

## Department of Art

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KLOSTER (Head of the Department), HARTER, REID, SANDERSON

The Department of Art offers courses to meet the needs of students in: (1) teacher training, (2) an area of concentration in art in the Arts and Sciences Curriculums, (3) basic and practical arts preparing the student for a professional art career, (4) art for general culture.

### Teacher-Education Curriculums

#### The Kindergarten-Primary and Elementary Curriculum

*For Students Not Taking a Major or Minor.* In addition to Art 101 required in the Kindergarten Primary Curriculum, the prospective teacher of small children may wisely elect Art 115. The student in the Elementary Curriculum, in addition to required Art 101, and Art 210, may well elect some of the following courses: Art 102, 114, 115, 120, or 121.

*For Students Desiring a Major or Minor.* Students registered in the Elementary Curriculum wishing a major in art, or the special certificate, will take the following courses: Art 102, 103, 105, 106, 114, 115, 121, 121, 212, 215. The remaining work required to make a minimum of 30 semester hours, should be selected from the upper-division offering. The minor in art of fifteen semester hours should include Art 102, 105, 114, 120 and 212.



## The Secondary Curriculum

Students taking the Secondary Curriculum and planning to teach art will take the following courses: Art 102, 103, 105, 106, 114, 115, 120, 121, 122, 212, 215, 225. Those desiring the special certificate in Art, will also complete this sequence. The remaining hours, to make a minimum of 30 semester hours, should be selected from the upper division courses. Those desiring a minor only, should include Art 102, 105, 114, 212.

## Arts and Sciences Curriculums

### Generalization Requirements.

Students seeking the Bachelor of Arts degree with an area of concentration in Art, must meet the "generalization requirements" listed under the Arts and Sciences Curriculums found on page 70 of the catalog.

### The Area of Concentration in Art.

The Area of concentration in art has been planned to give the student good basic training in the related arts for general culture, a background for professional work, or for practical purposes. In this area the student must take a total of 36 semester hours in required and optional courses as indicated below.

*Required Courses.* Each student taking art as an area of concentration must take the following 19 semester hours of work in art: Art 101, 102, 103, 105, 106, 114, 121, 215.

*Optional Courses.* In addition to the required courses listed above 17 semester hours must be selected from one of the two fields of emphasis given below.

(1) *Emphasis on Creative Art.* Those interested in the creative arts will select their courses from the following: Art 115, 120, 206, 214, 217, 220, 221, 226, 228, 238, 290.

(2) *Emphasis on Practical Arts.* Students especially interested in the practical arts, will select the 17 hours from the following: Art 122, 201, 202, 203a, 203b, 204, 208, 214, 218, 221, 226, 240, 290.

## Technical and Semi-Professional Curriculums

Courses are offered in the Department of Art designed to meet the individual needs of students not planning to graduate, but who desire one or more semesters of work with major emphasis in art.

## Description of Courses In Art

**Art 101 *Introduction to Art.*** A study, including analysis of painting, sculpture, and architecture, to develop comprehension and appreciation of the fine arts. Some laboratory experience will be given. Fee, \$1.00. Credit, 2 hours.

**102 *Drawing and Perspective.*** General drawing in addition to the principles in elliptical, parallel and angular perspective. Fee, \$1.50. First year, second semester, four hours a week. Credit, 2 hours.

**103 *Life Drawing.*** A study of the basic construction of the human figure with emphasis on solidity and proportion. Fee, \$1.00. First year, first semester. Credit, 3 hours.

**105 *Color and Design.*** The scientific basis of color, the properties of color and combinations producing harmony. Fee, \$1.00. First year, first semester, four times a week. Credit, 2 hours.

**106 *Creative Design.*** A modern approach to the field of design. Designing from the volume; surface enrichment of forms; a study of texture; creative pattern in rugs, drapery, wall paper, and dress prints. Fee, \$1.50. First year, second semester, four hours a week. Credit, 2 hours.

**114 *Water Color.*** Painting in opaque and transparent water color. Landscape, still life, and figure. Prerequisites for art majors: Art 102, 103. Fee, \$1.00. Second semester, six hours a week. Credit, 3 hours.

**115 *Ceramics.*** Modeling is an art medium which has universal appeal. Fun may be had in modeling amusing, serene, or grave figurines. An introduction to pottery. Glazing and firing. Fee, \$5.00. Second year, either semester, four hours a week. Credit, 2 hours.

**120 *Allied Crafts.*** A laboratory course dealing with special problems in leather, metal, weaving, toy making, marionettes, book binding, and textile printing. Fee, \$3.00. Second year, first semester six hours a week. Credit, 3 hours.

**121 *Lettering.*** Fundamentals of construction, spacing and arrangement of basic Roman and Gothic letters. Modern uses of lettering. Required for commercial art majors. Fee, \$1.50. Each semester, four hours a week. Credit, 2 hours.

**122 *Commercial Art.*** An introductory course. Problems identical with those solved by professional commercial artists. Prerequisite: Art 121. Fee, \$1.00. Second semester, four hours a week. Credit, 2 hours.

201 *Advertising Design*. An analysis of design problems peculiar to the various types of advertising: labels, poster, direct mail, window and counter display, magazine and newspaper advertising. Problems identical with those given the professional advertising designer. Fee, \$1.00. First semester, four hours a week. Credit, 2 hours.

202 *Survey of Advertising Art*. A thorough description of all phases of advertising production including advertising agency procedure, typography, reproduction processes, printing, lithography. Visits to local business concerns and studios. Fee, \$1.00. Second semester, four hours a week. Credit, 2 hours.

203-a *Advanced Lettering*. A continuation of Art 121 with emphasis on arrangement and spacing. Fee, \$1.00. Each semester, four hours a week. Credit, 2 hours.

203 b *Advanced Lettering*. Special problems. Recommended only to those having professional interest in lettering. Fee, \$1.00. Each semester, four hours per week. Credit, 2 hours.

204 *Costume Design*. Fashion rendering, sketching, fashion prediction and creation. A survey of manufacturers, retailers, designers and illustrators of fashion. Prerequisites for art majors: Art 103, 105, 114. Fee, \$1.00. Third year, second semester, four hours a week. Credit, 2 hours.

206g *Sculpture*. Modeling in the round and in relief, casting and mold making, carving, applying finish. Prerequisites for art majors: Art 103, 106. Fee, \$4.00. Second semester, four hours a week. Credit, 2 hours.

208 *Industrial Design*. Advanced design from present-day industrial and commercial angles. Includes modern packaging. Renderings and models. Prerequisites: Art 105, 106, 121. Fee, \$1.00. Second semester, four hours a week. Credit, 2 hours.

210 *Public School Art*. General art requirement. A course for teachers emphasizing tools and procedures, art principles and modern ways of directing art activities. Fee, \$2.00. Third year, either semester, four hours a week. Credit, 2 hours.

212 *The Teaching of Art*. Required of all art education majors. A continuation of Art 210 with emphasis on instructional methods, materials and procedures of importance to the teacher of art in Arizona schools. Prerequisite: Art 210. Two hours a week. Credit, 2 hours.

214 *Advanced Water Color*. Continuation of Art 114, with more advanced problems. Fee, \$1.00. Each semester, four hours a week. Credit, 2 hours.

215 *Art History*. A comprehensive survey of art emphasizing the manner in which art reflects and interprets a people and a period.

Fee, \$1.00. First semester, three hours a week. Credit, 3 hours.

217 *Advanced Ceramics*. Progressive problems in modeling. The student may elect work in pottery using the wheel or in ceramic sculpture. Special study in the preparation of glazes. Prerequisite: Art 115. Fee, \$5.00. Either semester, four hours a week. Credit, 2 hours.

218 *Advanced Commercial Art*. The student may specialize in any field of commercial art which interests him. Prerequisites: Art 103, 105, 121, 201, or equivalents. Second semester, four hours a week. Credit, 2 hours.

220 *Advanced Crafts*. A continuation of Art 120 with opportunity to do advanced special problems in the crafts. Prerequisite: Art 120. Fee, \$3.00. Either semester, six hours. Credit, 3 hours.

221 *Advanced Life Drawing*. Emphasizing detailed structure of heads, hands, and feet, as well as full figure. Quick sketch and memory sketch as well as longer poses. Various mediums. Fee, \$2.00. First semester, six hours. Credit, 3 hours.

225 *Art Curriculum and Supervision*. Art problems and methods for elementary and high schools; the relationship of the art supervisor to principal, art teacher, and classroom teacher; analysis and planning of art courses of study. Prerequisites: Art 210, 212. Fee, \$1.00. Fourth year, two hours a week. Credit, 2 hours.

226g *Contemporary Art*. Surveys contemporary art in America and abroad emphasizing the aims and tendencies in expression with a study of the major artists and their accomplishments. Fee, \$1.00. Second semester, two hours a week. Credit, 2 hours.

228 *Oil Painting*. Sketching excursions as well as indoor painting. Landscape, still life, and figure. Emphasis on interpretations of the local scene. Prerequisite: consent of instructor. Fee, \$1.50. Either semester, six hours a week. Credit, 3 hours.

238g *Advanced Oil Painting*. Continuation of Art 228. Preparation of canvas and gesso grounds, and a study of techniques. Fee, \$1.50. Either semester, six hours a week. Credit, 3 hours.

240g *Interior Design*. A study of modern housing, coordinated planning in decorating the small house with emphasis upon modern ways of achieving a feeling for space. Renderings of floor plans, elevations, and interior sketches. The construction of miniature models of scale. Fee, \$2.00. Six hours a week. Credit, 3 hours.

248 *Figure Painting*. Painting from posed model in oil, gouache, tempera, and water color. Prerequisites: Art 103, 114 and or 228. Fee, \$4.00. Three hours laboratory and one lecture a week. Credit, 2 hours.

# Department of Commerce

HILBERT (Head of the Department), BUNTE, BRATCHER, BURTON,  
HELBBING, KRAEGER, MAX, MCKINNON, SHEPPARD

The department of commerce offers courses to meet the needs of four groups of students: (1) Those preparing for some phase of business as a career and who wish to obtain the degree of Bachelor of Science with an area of concentration in Accounting, General Business and Economics, or Secretarial Science. (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 commerce, or business subjects, in public secondary schools. (4) Those pursuing any of the other curriculums of the college, but desiring certain electives in commerce.

## Teacher-Education Curriculums

### Kindergarten Primary and Elementary Curriculums.

The department does not encourage students following the elementary or the kindergarten primary curriculum to take majors and minors in commerce, however, it is suggested that electives from the following courses may be quite helpful; Com. 141, 101, 102, 110, 120, 233.

### The Secondary Curriculum

*For Prospective High School Teachers.* Students who wish to specialize in commerce and obtain a secondary certificate are required to take the following subjects comprising 38 semester hours of work: Com. 201, 202; 120, 235, 236; 171, 173; 130, 132, 205, 206; 251, 252.

Students who wish a minor in commerce will take a minimum of 15 semester hours including a minimum of 9 hours in any one of the following four fields of emphasis: (1) Accounting, (2) General Business and Economics, (3) Marketing and Advertising, (4) Secretarial Science.

To qualify for the Arizona Special Certificate in Commerce the student must complete the required practice teaching assignment in the commercial department of a high school. No student will be recommended for such an assignment who has not given satisfactory evidence of teaching skill and knowledge in bookkeeping, typewriting, shorthand, business law, and such other subjects as are usually taught in Arizona High Schools, and who has not completed at least one semester's work in Commercial teaching methods.

## Arts and Sciences Curriculums

*The degree.* The completion of a four-year curriculum, including the Generalization Requirements, and an area of concentration in commerce as outlined below leads to the degree of Bachelor of Science.

### Generalization Requirements

Each student seeking the Bachelor of Science degree with an area of concentration in commerce, must complete the 40 semester hours of work outlined on page 70 of the catalog, and in addition one of the four areas of concentration as outlined below.

### Areas of Concentration.

In addition to the Generalization Requirements, each student specializing in commerce, must take one of the following three areas of concentration: Accounting, General Business and Economics, or Secretarial Science.

(1) *Accounting.* In this area of concentration the following 13 to 15 semester hours or equivalents are prerequisites: Com. 101, 102, 130, 141. The following 24 semester hours are required: Com. 201, 202, 203, 204, 207, 208, 209, 210, and 14 semester hours must be selected from the following: Com. 103, 130, 142, 205, 206, 211, 224, 290.

Completion of the Area of Concentration will qualify the student to take the Arizona C. P. A. examinations. See details elsewhere.

(2) *General Business and Economics.* In this area the following 20 semester hours of work are required: Com. 101, 102, 130, 132, 205, 206 and 20 hours must be selected from one of the following three fields of emphasis:

- (a) Merchandising: Com. 171, 173, 275, 277, 278, 103, 132, 215, 219.
- (b) General Business Management: Com. 103, 132, 173, 215, 171, 217, 219, 201, 202, 208, 210, 221, 233, 224.
- (c) Economics: Com. 132, 173, 209, 217, 262, 214, 219, 220, 221; Geog. 101; Ed. 120.

(3) *Secretarial Science.* The following 28 semester hours are required of students who have not had any previous secretarial training: Com. 101, 110, 113, 114, 120, 130, 205, 235, 236, 241\* 242\* (\*Two hours only are required in these two courses combined.) Students who have already had the equivalent of Com. 110, 113, 114 are excused from them.

Students who have had Com. 110, 113 and 114, will select 16 semester hours of work from the following optional courses: Com. 102, 121, 132, 141, 206, 233, 238. Students who have not had Com. 110, 113, 114 will select a minimum of 8 hours from the list of courses given above.

## Technical Curriculums in Commerce

Students not planning to graduate, may select courses in Commerce to fit their individual needs. These courses will be planned under the guidance of the head of the department, and may continue for one, or for several semesters. If such students decide later to complete work for a degree, they must meet all requirements of the particular degree selected.

## Description of Commerce Courses

### Accounting

Com. 101, 102 *Elementary Accounting*. A beginner's course in the field of bookkeeping, accounting, and business administration. Principles and theories of modern accounting procedure. Covers the entire bookkeeping cycle and preparation of the more common types of business reports. Required of all majors in the Commercial Department. Three lectures and two hours of laboratory a week. Credit, 4 hours each.

103 *Social Security and Payroll Accounting*. This course covers the entire social security and payroll accounting procedure of the average business. Both the legal and accounting requirements of social security legislation are studied with respect to taxes, benefits payable, merit ratings, personnel control, personnel and compensation records, unemployment insurance, time keeping, and payroll records. Prerequisites: Com. 101, 102 or equivalent. Three lectures a week and problems. Credit, 2 hours.

× 141 *Business Mathematics*. Instruction and practice in the fundamental operations—interest, discount, ratios, and related topics. Required of all majors in the Commerce Department who are deficient in the fundamentals of arithmetic. First semester, twice a week. Credit, 2 hours.

142 *Mathematics of Accounting*. A study of annuities, debt amortization, bond price and valuation, and the algebraic equations used in income tax and in consolidated balance sheet problems. Prerequisite: Com. 141 or equivalent. Second semester, twice a week. Credit, 2 hours.

177 *Bookkeeping and Accounting Machines and Clerical Practice.* Operation of selected business machines and their adaptation to techniques and uses in various types of bookkeeping and accounting work, including special laboratory practice. Prerequisites: Com. 101, 102. Fee, \$4.00. Credit, 2 hours.

201, 202. *Intermediate Accounting.* An intensive study of corporations and corporation accounting, tangible and intangible assets, liabilities, funds and reserves, comparative statements, analysis of working capital, miscellaneous ratios, and statement of application of funds. Prerequisites: Com. 101, 102 or equivalents. Three lectures a week and problems. Credit, 3 hours each.

203g, 204g. *Advanced Accounting.* Partnership organization, dissolution and liquidation. Also venture accounts, statements of affairs, receiver's accounts, home office and branch accounts, parent and subsidiary companies, consolidated balance sheets and profit and loss statements, foreign branches and subsidiaries, estates, and trusts. Prerequisites: Com. 101, 102 or equivalent. Three lectures a week and problems. Credit, 3 hours each.

207g. *Auditing Theory and Practice.* Fundamental principles of audit practice and procedure, verification of the balance sheet and the profit and loss items, preparation of working sheets, and the compilation of audit reports. Prerequisites: Com. 101, 102 or equivalent. Three lectures a week and case problems. Credit, 3 hours.

208g. *Cost Accounting.* A study of the theory of cost accounting and the various cost find systems including specific order costs, process costs, standard costs, and estimate costs. The business routine, as well as the cost accounting procedure, is studied. Preparations of the various cost statements and reports. Prerequisites: Com. 101, 102 or equivalent. Three lectures a week, problems and practice sets. Credit, 3 hours.

209g. *Governmental and Institutional Accounting.* Application of basic accounting principles and budgetary control to various governmental units—city, county, and state—and to public institutions. Includes a study of funds, revenues, expenditures, municipal balance sheets and annual financial reports. Prerequisites: Com. 101, 102 or equivalent. Three lectures a week and problems. Credit, 3 hours.

210g. *Income Tax Federal and State.* A study of the federal and state income tax laws and training in the preparation of various income tax returns including returns for corporations, partnerships, fiduciaries, and individuals. Prerequisites: Com. 101, 102 or equivalent. First semester, three lectures a week and cases. Credit, 3 hours.



211g, 212g. *Seminar in Accounting.* The student is permitted to select a special field of accounting in which he is particularly interested such as chain-store accounting, automobile dealer's accounting, public accounting, etc., and to pursue individual study and/or research in that field. Open only to accounting majors. Prerequisite: approval of instructor. Conference hours arranged. Credit, 1 to 3 hours.

Note. A laboratory fee of 50 cents is charged for each accounting course excepting Com. 177, but the maximum laboratory fee in any semester, regardless of the number of accounting courses taken, is one dollar.

### General Business and Economics.

130 *Introduction to Economics.* A descriptive and analytical survey of economic institutions and behavior. The fundamental theories of production, exchange, distribution and consumption. Each semester, three times a week. Prerequisite: sophomore standing. Credit, 3 hours.

132 *Current Economic Problems.* A survey of current economic problems applying the principles of economics to such problems as: public finance, labor, foreign trade and exchange, business combinations and monopolies, transportation, agriculture, unemployment, etc. Each semester, three times a week. Prerequisite: Com. 130. Credit, 3 hours.

205, 206 *Business Law.* A study of the legal situations most frequently encountered in everyday life: contracts, sales, agency, partnerships, corporations, negotiable instruments, personal property, real property, and federal and state regulation of business. The practical application of the law is presented especially as it applies to Arizona. The origin and development of law and its social aspects are studied. Three times a week. Credit, 3 hours each.

214g *Consumer Economic Problems.* Analytic study of present-day economic problems of the individual consumer, including consideration of the fundamental issues involved in consumer education. Includes, also, a survey of professional books, periodicals, and other published materials having to do with the general problem of consumer education. Prerequisites: Com. 130, 132 or equivalent. Credit, 3 hours.

215 *Business Organization and Management.* Practical study of basic forms of business organization and types of management. Prerequisites: Com. 130, 132 or equivalent. Credit, 3 hours.

**217g *Money and Credit.*** Study of the function of money, monetary systems, credit functions and facilities, banking policies and practices, and the relation of money, credit, and prices to the business cycle. Prerequisites: Com. 130, 132, or equivalent. Credit, 3 hours.

**219g *Labor Relations.*** Study of the strength and weaknesses of wage earners in modern society. Emphasis is on a factual background for a critical appraisal of problems confronting labor and capital as well as legislation and administrative regulations affecting employers and employees. Prerequisites: Com. 130, 132 or equivalent. Credit, 3 hours.

**220g *Investments.*** Analysis and evaluation of securities offered by national, state, and municipal governments, public utilities, railroads, industrial concerns, banks, insurance companies, and trusts. Consideration also of business cycles, currency problems, and governmental action in their relation to the position of the investor. Prerequisites: Senior standing, Com. 130, 132 or equivalent. Credit, 3 hours.

**221g *General Insurance.*** Survey of coverages available, efficient buying methods, procedures followed in settlement of claims, types of insurance companies, and vocational opportunities in the field. Prerequisites: Com. 130, 132 or equivalent. Credit, 2 hours.

**222g *Life Insurance.*** A study of policy forms currently being sold and their adaptation to life needs or family and business needs. Various types of life insurance companies are reviewed. Computation of premiums, contract settlements, sales methods, opportunities in the field, and many other topics are covered. Prerequisite: Com. 221g. Credit, 2 hours.

**224 *Business Statistics.*** Sources, collection, classification and tabulation of data including tables and charts, analysis of frequency distribution, construction and use of index numbers, time series, correlation and sampling and their application in the solution of business problems. Prerequisite: junior standing. Credit, 4 hours.

**239g *Office Management.*** Basic principles and general practice in the organization and administration of the clerical function, including consideration of office management practices in government, business, and industry. Credit, 2 hours.

**262g *Contemporary Economic Systems.*** Study of economic aspects of communism, fascism, Nazism, laissez faire capitalism, and regulated capitalism. Advantages and disadvantages of the various systems considered with reference to the welfare of the peoples of all

nations. Prerequisites: Com. 130, 132, 217g or equivalent. Credit, 2 hours.

266g *Personnel Management*. A survey of human relations problems of government and business organizations involving such topics as: organizational aspects of personnel relations, selection and placement, training, transfer, promotion and other personnel transactions, wage incentives, union management relations, absenteeism, labor turnover, employee grievances, health and welfare, and the handling of general employee services such as counseling and plant publications. Prerequisites: Com. 130, 132. Credit, 3 hours.

266 *Corporation Finance*. Covers such topics as promotion, corporate organization and management, financing by means of stock or with borrowed capital, financial plans, selling securities, dividend policies, investment of funds, and business combinations and reorganizations. Prerequisites: Com. 130, 132, 217. Credit, 3 hours.

### Marketing and Advertising.

171 *Salesmanship*. Study of the basic principles of salesmanship applicable both to the selling of merchandise and the creation of a favorable personal impression in any field of endeavor. Selling problems and situations analyzed in terms of arriving at practical and desirable solutions. Three times a week. Credit, 3 hours.

173 *Marketing and Distribution*. A general and critical survey of principles, trends, and practices related to present-day marketing and distribution. Prerequisite: Com. 130 or equivalent. Three times a week. Credit, 3 hours.

275 *Advertising*. An introductory study of advertising theory and practice in relation to principles of marketing and general business management. Prerequisite: Com. 171. Credit, 3 hours.

277g *Principles of Retail Merchandising*. A study of the scope of merchandise planning and control, inventory and purchases, markup and profit as they relate to merchandising practices. Prerequisite: Com. 173. Credit, 3 hours.

278g *Retail Store Management Problems*. The fundamental problems of store management including location, layout, customer services, personnel, and operational factors as they affect successful retailing. Prerequisites: Com. 173, 277. Credit, 3 hours.

279g *Wholesaling*. Wholesaling, its organization and function in the marketing channel, services, price policies, regulation and recent trends. Prerequisite: Com. 173. Credit, 2 hours.

281 *Sales Administration*. Administration of a sales organization; sales planning, sales quotas, selection, training, and compensation, and administration of a sales force. Prerequisites: Com. 171, 173, 279. Credit, 2 hours.

283 *Marketing Research*. Types and use of market research, analysis procedures, planning the investigation, interpretation, presentation of results, the role of market analysis in business and economics. Prerequisites: Com. 173, 224. Credit, 3 hours.

285 *Advertising Copywriting*. A study of the principles involved in the writing of effective advertising copy including extensive practice in the preparation of copy for various types of goods and services with special emphasis upon newspaper copy for the small retail store. Prerequisites: Com. 233 or 275. Credit, 2 hours.

286 *Advanced Advertising Technique*. An advanced study of the procedures in the preparation of advertising material. Covers the selection of appropriate media and the creation of the advertisement from the layout through the processes of engraving and printing. Special attention given to the advertising problems of the small retail establishment. Prerequisite: Com. 275. Credit, 2 hours.

287 *Radio Advertising*. The specialized techniques and problems of radio advertising. Particular attention to the effective utilization of radio by the local retailer including program selection and planning, **preparation of continuity, and coordination with other forms of advertising**. Prerequisites: Com. 275. Credit, 2 hours.

289 *Foreign Trade*. Analysis and appraisal of the fundamentals underlying foreign trade, international commercial policies, developing markets abroad, trade surveys, and practical procedure in importing and exporting. Prerequisites: Com. 130, 132. Credit, 3 hours.

293 *Price Policies*. Price making on organized exchanges; pricing and price systems in principal industries, and in wholesale and retail distribution: emphasis on practice rather than theory. Prerequisites: Com. 173, 275, 278, 279. Credit, 2 hours.

### Secretarial Science

110 *Techniques in Typewriting*. Fundamentals of touch typewriting with appropriate emphasis upon technique and elementary application. Fee, \$2.00. Both semesters, daily. Credit, 2 hours.

113, 114 *Elementary Shorthand*. Principles of Gregg Shorthand. Some dictation and transcription included in the work of the second semester. Prerequisite: Com. 110 or equivalent training. Fee, \$1.00. Daily. Credit, 3 hours each.

120, 121 *Projects in Typewriting*. Advanced instruction in applied typewriting with emphasis upon the attainment of speed and accuracy as well as other skill requirements appropriate to production work in a modern office. Students having college credit in elementary typewriting may take only Com. 120 for credit. Prerequisite: Com. 110 or equivalent training. Fee \$2.00. Daily. Credit, 2 hours each.

233 *Business Correspondence*. Business writing as effectively applied in various forms of business communication. Includes special consideration of form, layout, and other related mechanical aspects of business communication of particular importance to prospective office employees who have a secondary and supporting relationship to the communication function. Attention given to the planning and writing of application letters. Prerequisites: Eng. 101, 102, Com. 110 or equivalent. Second semester, three times a week. Credit, 3 hours.

235, 236 *Advanced Shorthand*. An advanced course in Gregg Shorthand, beginning with a very brief review of the principles of the system and continuing with graded dictation and transcription. Minimum objective: ability to perform as an efficient stenographer with dictation power of 120 words per minute and transcription power of 25 words per minute. Prerequisites: Com. 113, 114, 120 or equivalent. Fee, \$1.00. Three times a week. Credit, 3 hours each.

238 *Secretarial Problems*. Modern office requirements from the standpoint of secretarial efficiency. Includes special consideration of understandings, attitudes, and appreciations required of the personal or private secretary. Prerequisites: Com. 120, 235 or equivalent. Fee, \$1.00. Credit, 2 hours.

241, 242 *Secretarial Office Practice*. Clerical procedures and laboratory practice related to stenographic and secretarial work. Training in the operation of selected office machines and their adaptation to office needs and procedures, including Ediphone and dictaphone operation, mimeographing and other types of duplication, adding and calculating machine operation. Also includes organized instruction in filing. Prerequisites: Com. 120, 235 or equivalent. Fee, \$5.00. Daily. Credit, 1 to 2 hours each semester.

### Commercial Teacher Training

251g, 252g *Commercial Teaching Methods*. First semester: comprehensive survey of instructional methods and materials related to business subjects usually taught in Arizona public secondary schools. Second semester: critical study of business offerings in public sec-

ondary schools, including thorough consideration of the objectives and basic principles of secondary business education. For commercial teacher training majors only. Prerequisites: Com. 101, 102, 114, 120 or equivalent. Credit, 2 hours each.

255g *Distributive Education*. Analytic study of the distributive occupations and critical evaluation of the need for distributive education. Includes also consideration of the George Deen Act and its provisions for Federal aid. For commercial teacher training majors and interested public school administrators only. Prerequisites: Com. 105, 106, 227 or equivalent training and experience.

351 *Practicum in Secondary Business Education*. Problems in organization, administration, and instruction in the field of secondary business education. Attention given to the planning and development of practical or creative projects, either group or individual. Prerequisites: Com. 251, 252 and Ed. 215, or equivalent. Registration subject to approval of instructor. Credit, 1 to 3 hours.

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## Department of Education

BURKHARD (Head of the Department), PAYNE, SKINNER, RICHARDSON,  
BENEDICT, RICE, LEIFESTE, MENKE, HAMMER

The purpose of this department is to promote interest in the teaching profession and to prepare students to carry on effective work as teachers and administrators in the public school. 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.

### Teacher-Education Curriculums

See the descriptions and outlines under the heading "Teacher-Education Curriculums" on pages 66-70.

### Arts and Sciences Curriculums

*Degree.* Students completing the Arts and Sciences Curriculum with an area of concentration in Social Welfare will receive the Bachelor of Science degree.

## Generalization Requirements.

Students seeking the B. S. degree must meet the generalization requirements listed on page 70 of the catalog.

## Area of Concentration in Social Welfare.

The area of concentration in social welfare is planned to provide a broad background of study and preparation for students who expect to enter graduate schools of social work or for those who plan on taking social work positions in communities where graduation from a school of social work is not a requirement. Professional training in social work is taken in graduate schools of social work. The courses offered here are on the undergraduate level and are for the purpose of orienting students to the field of social welfare.

The American Association of Schools of Social Work recommends that prospective students of Social Work or Social Administration be urged to take not less than 12 semester hours in economics, political science, psychology, and sociology (including social anthropology). The Association also recognizes the value of courses in biology, history, education, and English literature and composition, as well as other courses which contribute to a broad cultural background. Some schools of social work require that the student, in addition to taking introductory courses in economics, political science, sociology, psychology and biology, complete at least 18 hours of selected courses in one of these subjects. A total of 50 semester hours of required and optional courses must be taken as indicated below.

*Prerequisites.* The following 17 semester hours: Ed. 120; G.S. 100, 110; Com. 130; Psych. 100.

*Required Courses.* The following 30 semester hours are required: Hist. 103, 104, 105, 106; Psych. 208; Soc. 205, 212, 215; P.S. 102, 203.

*Optional Courses.* Twenty semester hours to be selected from the following: Spanish, 8 hours; Mathematics, 6 hours; Hist. 109; Psych. 200, 211, 213, 224, 225, 231g, 234, 240; Com. 219g, 225g; P.S. 200, 201, 204; Econ. 131; Biol. 130, 140, 204; Phil. 200; Eng. 171.

## Description of Courses in Education

**Ed. 120 *Sociology.*** An introductory course in the study of human relationships, human wants, and social institutions. The aim is to discover foundations on which to base a stable and progressive civilization. Either semester. Credit, 3 hours.

201 *Art in the Kindergarten Primary School.* Considers the philosophy, psychology, and place of art in the kindergarten primary school. Laboratory work provides opportunity for becoming familiar with materials, developing techniques, and applying them in directed classroom situations. Fee, \$2.00. Third year, first semester. Credit, 2 hours.

202 *Crafts in the Kindergarten-Primary School.* A laboratory course in the creative use of everyday materials as a means of developing individual expression. Paper, clay, textiles, wood, and construction work are used and related to the integrated program. Directed observation and experience with children. Fee, \$2.00. Third year, second semester. Credit, 2 hours.

204 *Language Arts for the Lower Elementary School.* Considers the place of language arts in the contemporary school. A study of those areas dealing with oral and written expression (speech, reading, writing, spelling, literature, etc.) in the integrated program. Special emphasis on the development of techniques for guiding child growth in these fields. Opportunity for observing in the local schools. Third year, first semester. Credit, 2 hours.

Soc. 205 *History of Social Welfare.* Covers the different methods of helping the poor from ancient times to the present, considering various systems of relief in Continental Europe, England, and the United States. Credit, 3 hours.

207 *Literature for the Kindergarten-Primary Grades.* A broad survey of folk and modern literature for children of the lower elementary school; a study of characteristics and placement of different types; wide reading to familiarize students with sources and to develop discrimination; opportunity for experience with children. Third year, first semester. Credit, 3 hours.

209 *Kindergarten-Primary Curriculum and Teaching Problems.* A study and evaluation of the principles and philosophy underlying teaching in this area. Well known curriculums will be studied in addition to our state course of study. Curriculum activities will be discussed, developed, and evaluated in actual teaching situations. Equipment, time schedules, reports, and other teaching problems will be studied. To be taken concurrently with student teaching. Fee, 75 cents. Credit, 3 hours.

211g *History of Education.* A survey of the social life, ideas, and institutions that gave direction to western civilization. The purpose is to furnish background for a better understanding and evaluation of present educational and social problems. Three times a week. Credit, 3 hours.



212 *Kindergarten-Primary Play Education and Materials.* Study of spontaneous play, and play materials of young children with special emphasis on the utilization of these interests in plays, games, and rhythms to promote normal child development. Opportunity to work with children. Fee, 75 cents. Third year, second semester. Credit, 3 hours.

Soc. 212 *Introduction to Social Work.* Combines class discussion with field trips. Designed to help students with their relationships with others through the study of social agencies and their approach to human problems. Credit, 3 hours.

214 *Language Arts for the Upper Elementary School.* The student makes a study of the purposes, methods, and materials of the language arts, which include oral and written expression, reading, and spelling in the upper grades. Credit, 2 hours.

Soc. 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.

216g *Educational Sociology.* A study of education in relation to the social institutions in which individuals gain their experiences. The course will deal with methods of gathering data in social research; with the family as an educational agency; problems of educational reconstruction; social relationships and their educational significance; and techniques for measuring the social results of education. Credit, 3 hours.

218g *Diagnostic and Corrective Reading Techniques.* A study of reading difficulties which are encountered in teaching reading in the public schools. The difficulties of both the learning and the teaching situations are investigated. The best known techniques of diagnosis and corrective procedure will be studied. Credit, 3 hours.

219g *Evaluation in the Kindergarten-Primary School.* A course designed to study the techniques for understanding the young child with the purpose of adjusting the school program to his needs. Practical applications will be made whenever possible. Credit, 2 hours.

220g *Arizona School System, Laws, and Records.* The organization and legal setup of the Arizona school system is discussed with special reference to the work of the teacher and administrator. Consideration given to reports and records. Meets the requirement for the administrative certificate. Two times a week. Credit, 2 hours.

228g *Methods of Teaching in Junior and Senior High School.* Objectives of secondary education, methods of planning instruction,

socialized procedures, individual differences, testing procedures, individual work in major field. Second semester, three times a week. Credit, 3 hours.

230 *Elementary School Curriculum and Techniques*. Provides the student with understanding of those necessary curriculum factors, such as: contemporary life, scope, concept, and principles of curriculum revision. It includes a study of the various areas of the program and their problems of instruction. Credit, 3 hours.

232 *Introduction to Guidance*. The need, objectives, prevailing practices, and the administration of guidance programs with special emphasis on the development of an adequate guidance program. Credit, 3 hours.

233g *Visual Aids in Education*. A discussion of the principles upon which visual education should be established. An examination and evaluation of the latest materials and methods with demonstrations of the actual use of visual aids in units of work. First semester, two times a week. Credit, 2 hours.

237g *Production of Audio Visual Aids*. A laboratory course in the making of slides, film strips, photographs, motion pictures, models, charts, graphs, and other teaching aids for the use in schools. Fee \$3.00. Credit, 2 hours.

238g *Extra curricular Activities*. A study of the activities in the elementary and high schools that have grown up outside the regular curriculum. Different types of activities, their function, importance, and relationship to the regular school program. Consideration of the problem of adjusting these activities to the school program or of including them in the regular school curriculum. Credit, 2 hours.

239g *Administration of Audio Visual Aid Programs*. A study of the qualifications and duties of the director of audio-visual education, the preparation of the budget, buying equipment, procuring distribution and classification of material, in service training of teachers, and the evaluation of the audio visual program. For administrators and teachers who desire to prepare for the direction of audio-visual programs.

250g *Philosophy of Education*. A critical study of social and educational theories. Designed to help the student acquire a perspective of life and its products which will enable teachers to move in the direction of giving excellent professional services to society through the school. Open to seniors and graduate students. Either semester, three times a week. Credit, 3 hours.

260 *Observation and Directed Teaching.* All students taking any curriculum leading to kindergarten-primary, kindergarten elementary or elementary certification, observe and teach for a half day session during the last half of their junior year or first half of their senior year. Students taking curriculums leading to secondary certification or special certification teach for one quarter day instead of a half-day. This teaching is done under trained supervisors in one of the college training schools or in neighboring high schools. Regular class work in school management is included in the requirements for this course. Credit, 10 hours.

264 *4-H Club Organization and Leadership.* A study of 4-H Clubs including their history, scope, plan of organization, and methods. Students enrolled in this course are required to organize and conduct a 4 H Club in collaboration with the personnel of the Extension Department of the University of Arizona. A certificate of proficiency will be granted the student at the completion of the course and a copy filed with the Placement Bureau. Students will confer with the head of the department before enrolling in this course. Both semesters. One hour per week. Credit, 1 hour.

265g *Youth Organizations and Leadership.* A study of the special problems confronting American youth, particularly as they relate to adolescent and pre adolescent youth. A study of the various character forming organizations, juvenile problems, and community leadership. An intensive study of one organization and participation in the leadership of such organization. Fee, 50 cents. Third or fourth years, first semester. Credit, 2 hours.

266g. *The School and Community Relationships.* An analysis of the community; its responsibility towards its schools; its contacts with and contributions to them; and schools' community responsibilities. Individual and group study of racial and language problems; library services; service organizations and welfare agencies; parent teacher associations; social and economic backgrounds; and the school's public relations program. Fee, 50 cents. Third or fourth year, second semester. Credit, 2 hours.

267g *Problems of Counseling.* A study of the major types of youth problems and what to do with students who need counseling. Emphasis will be given to the application of clinical methods to the planning and adjustment problems of secondary school students. Credit, 2 hours.

300 *Seminar: Thesis Preparation and Research.* The four principal objectives are: (1) to acquaint students with the nature of the thesis, (2) to develop a familiarity with the library resources and facilities, (3) to develop certain techniques and basic skills essential in prepar

ing and reporting research studies, and (4) to provide an opportunity for preliminary consideration of suitable thesis problems. Required for the master's degree. Either semester. Credit, 2 hours.

305 *Education and Social Control.* A scientific study of human affairs with a view to giving a satisfactory direction to them. Social measurement and techniques for carrying on investigation will be considered. Credit, 4 hours.

306 *Character Education.* Problems of educating for citizenship are evaluated in the light of democratic ideals and conflicting social theories. The implications of environment as a means for educating for citizenship will receive attention. Credit, 2 hours.

312 *Modern Elementary Curriculum Development.* For teachers, supervisors, and administrators who wish to study the modern developments of the curriculum. An analysis will be made of the best educational thought, practices, and trends of the elementary program. Special attention given to those innovations of proven value. Credit, 2 hours.

Educ. 314 *Secondary School Administration and Supervision.* Stresses the activities and responsibilities of secondary school principals as they relate to the major problems of educational leadership and internal school organization and management. Designed for those who wish to prepare for administrative positions in secondary schools. Two hours a week. Credit, 2 hours.

315 *Public School Administration.* The function of the national government in public school education; state, county, and local organization of public schools; a comparison of administrative practices in different states. Second semester. Credit, 2 hours.

316 *Supervision in the Elementary School.* Considers the purposes of elementary education and such specific problems as the newer type organizations and procedures; grading and promotions; use of new type examinations; ratings of teachers; discipline. Whenever possible, the problems are worked out in the training school. Three times a week. Credit, 3 hours.

317 *Elementary School Administration and Supervision.* The place of the elementary school in the public school system; the internal organization of the school; the relationship of the school to the community; the problems of the principal. For principals, supervisors, and others working toward the administrative certificate. Two hours a week. Credit, 2 hours.

318 *Guidance Methods and Techniques.* Critical study of the nature and use of the interview, tests, inventories, records and reports,

observation, rating scales, and the case study in student personnel and guidance work. Course should precede Ed. 320. Credit, 2 hours.

**320 *Counseling.*** A course concerned with the understanding and application of principles, methods, and technique of counseling in individual students. Primary emphasis is placed on how to counsel students effectively. Ed. 318 should precede this course. Credit, 2 hours.

**325 *Vocational Guidance.*** A study of the origin, philosophy, principles, practices, and services of vocational guidance, its relationship to other types of guidance, to organized education, and to the total student personnel program. Primarily for secondary teachers, counselors, principals, and directors of guidance. Credit, 3 hours.

**330 *Contemporary Social Movements.*** A critical study of current social theories in relation to the work of social reconstruction. A sociological approach to the problem of education in relation to social control in a dynamic society. Credit, 2 hours.

**333 *Secondary School Curriculum Development.*** Deals with the meaning and scope of the secondary school curriculum; the resources for curriculum development; methods and techniques of revision; curriculum trends; recent experimental practices with integrated, functional, and core curriculums; and the organization and administration of curriculum development programs. First semester. Credit, 2 hours.

**334 *Directing Learning.*** The principles of learning and their application to the teaching learning situations of the secondary school. Special attention to the improvement of assignments, the use of class time and the evaluation of learning outcomes. Credit, 2, 3 hours.

**348 *Philosophic Foundations of Education.*** The aim will be to evaluate assumptions on which different philosophies rest with a view to constructing a philosophy that will meet the needs of modern life. Credit, 3 hours.

# Department of English

MYERS (Head of Department), SCHILLING, PILCHER, BUCKLEY,  
TURNER, OSENBURG, DAVIES, SOUTHERN, BURKE, ZIMMERMAN,  
GIRDLER, YATES, STRAUSBAUGH, BYERS

The department offers courses in the English language and literature, writing, journalism, speech, and dramatics. These offerings are designed: (a) for students who plan to teach or to supervise language activities at any level from kindergarten to college; (b) for students who desire a cultural background and wish to increase their competence in the use of the language; (c) for students planning to pursue writing, journalism, speech, or dramatics as a career or hobby.

## Teacher-Education Curriculums

### Kindergarten Primary and Elementary Curriculums.

*For Students Not Taking a Major in English.* Prospective teachers following either one of these curriculums will find Speech 230 and 240g especially helpful.

*For Students Taking a Major or Minor.* The Major in English. In addition to Eng. 101, 102, and Speech 110, required of all students taking these curriculums, the major in English requires: Eng. 105, 106, 151, 152, and at least 18 additional hours, 15 of which must be in upper division courses. Students majoring in English substitute Eng. 151 for Eng. 171.

The Major in Speech. The major in Speech requires 24 hours including Speech 110, 121, 123, 220, 257, 260. The remaining courses may emphasize either speech or dramatics.

The Minor in English. The minor in English requires Eng. 103, 104, 152, and 6 semester hours of upper division work in addition to the curriculum requirements, Eng. 101, 102, 171 and Sp. 110. Eng. 153 may be substituted for Eng. 171.

The Minor in Speech. The minor in Speech requires 15 semester hours selected in consultation with the Speech adviser. English majors who take a minor in Speech must take a second minor in some other department.

### The Secondary Curriculum.

*For Prospective High School Teachers.* For students pursuing the secondary curriculum and planning to teach English in the secondary

schools, the major and minor requirements are the same as those listed above under the heading Kindergarten-Primary and Elementary Curriculums.

## Arts And Sciences Curriculum

*Degree.* Students completing the Arts and Sciences Curriculum with an area of concentration in English receive the degree of Bachelor of Arts.

### Generalization Requirements.

Students seeking the B.A. degree must meet the generalization requirements listed on page 70 of the catalog.

### Area of Concentration.

The area of concentration in English requires a minimum of 49 semester hours in addition to the generalization requirements. These include the five groups as outlined below.

*Required Courses.* Eng. 128, 151, 152, and Speech 110 are required.

*Group Electives.* Fifteen semester hours must be selected from the following six groups, with a minimum of 3 semester hours each in at least four different groups. Group I, Eng. 253, 254. Group II, Eng. 208, 211, 212, 221, 222. Group III, Eng. 201, 203, 213, 214, 215, 216, 217, 218, 226. Group IV, Eng. 04, 205, 206, 223, 224, 244. Group V, Eng. 130, 140, 234, 240, 250. Group VI, Selections made from speech and dramatics courses.

*Speech Courses.* Two or three hours chosen from: Speech 121, 122, 124, 127, 170, 220.

*Related Courses.* The following 8 or 9 semester hours must be taken: Hist. 105, 106, and one of the following: Psych. 214, 225, 240.

*Optional Courses.* The remaining 11 to 13 hours may be chosen from the complete departmental offering or concentrated within one of the three divisions listed below. With the consent of the adviser, up to nine hours of courses in closely related fields may be substituted for English courses.

## Description of Courses In English

### Composition And Grammar

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 reading in anthology of readings; extensive reading in collection of current books especially selected for first year reading. Three times a week. 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. Three times a week. Credit, 3 hours.

128 *Advanced Composition*. Designed for students who are interested in further training in the organization and expression of ideas. Study and practice of both factual and imaginative discourse are treated in this course. Prerequisites: Eng. 101, 102. Credit, 3 hours.

130 *Introduction to Journalism*. A general course devoted to the study of basic principles of news-writing. Study and evaluation of news sources with illustrations from representative newspapers. Prerequisite to other courses in journalism. Fee, \$1.00. Three times a week. Credit, 3 hours.

140 *Journalism: Reporting*. A study and practice in the writing of all types of stories covered by a reporter. This course is designed to cover the problems confronted by the adviser of high school publications. Prerequisite: Eng. 130. Fee, \$1.00. Three times a week. Credit, 3 hours.

155 *Advanced English Grammar*. A study of technical grammar based upon the prose structure and idiom of the best modern writers. Etymology, word and sentence formation, and terminology are discussed. Second semester, three times a week. Credit, 3 hours.

234 *Creative Writing*. Writing laboratory. Lectures and conferences dealing with the techniques of writing for publication. Prerequisite: Eng. 128. Twice a week. Credit, 3 hours.

240 *Advanced Reporting and Editing*. A study for advanced students in the technique of copy editing, headline writing and newspaper page makeup, with special emphasis on practical application. Prerequisites: Eng. 130 and 140. Fee, \$1.00. Three times a week. Credit, 3 hours.

250 *Journalism Staff Work*. A laboratory course in practical newspaper work which is devoted to the technical preparation and management of campus publications and, in special cases, to practical work on weekly and daily papers in Tempe, Phoenix, and nearby communities. Prerequisite: Eng. 240. One lecture, one laboratory hour each week. Credit, 2 hours.



## Literature And Language

103, 104 *Directed Reading for English Minors.* Two semesters of directed reading are required for the English minor. Fee, 50 cents. Hours arranged. Credit, 1 hour each.

105, 106 *Directed Reading for English Majors.* Two semesters of directed reading are required for the English major. Fee, 50 cents. Hours arranged. Credit, 1 hour each.

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. Required of English majors. Prerequisites: Eng. 101, 102 Three times a week. Credit, 3 hours.

152 *Survey of English Literature.* Nineteenth century literature. General consideration of the major writers in relation to the aesthetic, social, and economic trends of the century. Prerequisites: Eng. 101, 102. Required of both majors and minors in English. Three times a week. Credit, 3 hours.

153 *World Literature.* Selections from the great literature of the world in translation. Lectures on the cultural background out of which the writings grew. Three times a week. Credit, 3 hours each.

171 *Introduction to Literature.* An introduction to literature and literary types. Reading of short stories, essays, novels, biographies, plays, and poetry, mainly from modern writers. Not open to English major. Three times a week. Credit, 3 hours each.

201 *History of the Novel.* The origins of prose fiction, the novel in England and America, with some attention to significant examples of foreign literature. Analysis of typical examples and reading of outside assignments. Three times a week. Credit, 3 hours each.

203 *History of the Drama.* The English drama from the Middle Ages to the present, together with selective examples of foreign influences. Reading of representative plays of each period. First semester, three times a week. Credit, 3 hours.

204g *Shakespeare: Histories and Poems.* Study of five of the tragedies, the sonnets, and minor poems. Three times a week. Credit, 3 hours. Not offered in 1947-48.

205g *Shakespeare: the Tragedies.* Critical study of five plays. An introduction to the problems of Shakespearean scholarship. Three times a week. Credit, 3 hours.

206g *Shakespeare: the Comedies.* A rapid reading of all the comedies. Studies of the comic spirit and Shakespeare's comic genius. Three times a week. Credit, 3 hours.

Ed. 207 *Literature for the Kindergarten Primary Grades*. Offered by the department of education. May be counted toward the English major.

208 *Nineteenth Century Prose: Victorian*. A study of the prose writers of the second half of the nineteenth century, with readings of their most significant works. Three times a week. Credit 3 hours. Not offered in 1947-1948.

211g *Nineteenth Century Poetry: Romantic Period*. Study of and readings in the poetry of Wordsworth, Coleridge, Shelley, Keats, Byron. Three times a week. Credit, 3 hours. Not offered in 1947-1948.

212g *Nineteenth Century Poetry: Victorian Period*. The poetry of the second half of the century, with special study of Tennyson, Browning, Arnold. Three times a week. Credit, 3 hours. Not offered in 1947-1948.

213 *Modern Fiction*. A study of the modern novel beginning with Meredith. First semester, three times a week. 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. Second semester, three times a week. Credit, 3 hours.

215 *Contemporary British Poetry*. British poetry of the twentieth century; techniques, aims, and significance. First semester, three times a week. Credit, 3 hours. Not offered in 1947-1948.

216 *Contemporary American Poetry*. American poetry of the twentieth century; techniques, aims, and significance. Second semester, three times a week. Credit, 3 hours. Not offered in 1947-1948.

217 *Modern Drama*. The chief dramatic writers of the generation preceding World War I. Reading from representative plays. Study of the theatre as influenced by the national school of the period. First semester, three times a week. Credit, 3 hours.

218 *Contemporary American Drama*. A study of the American Drama since World War I, with special attention to experimental techniques. Second semester, three times a week. Credit, 3 hours.

221 *American Literature*. Study of American literature from colonial times to the civil war, including the growth of nationalism, the rise of the New England school. Open to majors from other departments who have junior standing. Prerequisites: Eng. 101, 102. Three times a week. Credit, 3 hours.

222 *American Literature*. From Whitman to the present. Study of the influence of westward expansion, the growth of regionalism, the literature of social protest. Open to majors from other departments who have junior standing. Prerequisites: Eng. 101, 102. Three times a week. 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. Second semester, three times a week. Credit, 3 hours. Not offered in 1947-1948.

224 *Pope*. The life of Pope, his relation to the literary and social backgrounds of his period, and textual study of his chief works. First semester, three times a week. 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. Second semester, three times a week. Credit, 3 hours.

231g *Literature for Junior and Senior High School Students*. A study of prose and poetry which meets the interests, desires and capabilities of the high school boy and girl. Recent literature for the adolescent will be stressed. First semester, three times a week. Credit, 3 hours.

232g *Methods of Teaching English in the Junior and Senior High School*. Preparation of units in high school literature and composition, methods of teaching which provide for individual differences, and construction of measurement devices will be included. Second semester, three times a week. Credit, 3 hours.

244g *Chaucer*. A study of Chaucer's language, poetry, and intellectual background. Second semester, three times a week. Credit, 3 hours. Not offered in 1947-48.

252g *Semantics*. A study of the 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. Credit, 3 hours.

253g *History of the English Language*. A study of the development of the language from the earliest times to the modern period. Credit, 3 hours.

254g *History of the English Language*. A study of recent changes and current trends in the language. Three times a week. Credit, 3 hours.

## Speech and Dramatics

Speech 110 *Elements of Speech*. An introductory course in the field of speech and drama. Diagnosis of speech needs, with special clinical service available to those who need it. The minimum essentials of public speaking, the scientific attitude toward problems of pronunciation, principles of good conversation. Fee \$1.00. First year, either semester, twice a week. Credit, 2 hours.

121 *Dramatic Interpretation*. Principles of oral interpretation. Readings and selections for practice. Twice a week. Credit, 2 hours.

122 *Acting*. Readings in theory; laboratory projects. Three times a week. Credit, 3 hours.

123 *Stagecraft*. A study of the fundamentals of stage design and construction, lighting, costuming, make up, and stage management. Twice a week and laboratory hours. Credit, 3 hours.

127 *Argumentation and Debate*. The principles of argumentation as illustrated in debate. Essential to students engaging in intercollegiate debate. First semester, twice a week. Credit, 2 hours.

170 *Radio Speech*. A survey course providing a background for greater listening enjoyment and laboratory practice in microphone delivery, script writing, and acting. Auditions are given for participation in a series of radio dramatization over local stations. Fee, \$1.00. Two class meetings and one rehearsal period a week. Credit, 2 hours.

220 *Public Speaking*. A course in the organization and delivery of various types of speeches, with emphasis on those types which occur most often in everyday life. Second semester, twice a week. Credit, 2 hours.

227 *Intercollegiate Debating*. Preparation for and participation in intercollegiate debates. Credit is given only to those who have completed Speech 127 and is awarded at the end of the second semester. Prerequisite: Speech 127. First semester, twice a week. Credit, 1, 2 hours.

230 *Creative Dramatics*. A study of the uses of dramatics in schools; the methods of making a play from a lesson or story; the methods of getting children to improvise their own roles. Two recitation hours, two hours of demonstration weekly. In cooperation with the Training School. First semester. Credit, 3 hours.

235 *Stage Directing*. Theory and practice in the directing of plays under faculty supervision. Fee, 50 cents. Three times a week with laboratory. Credit, 3 hours.

240g *Creative Speech Activities for Children.* The theory of creative dramatics, choral speaking, and story telling. Twice a week. Credit, 2 hours.

241g *Children's Dramatics Laboratory.* Practice in creative dramatics, choral speaking, story telling, and formal dramatics, as assigned. Work with training school children. Prerequisites: Speech 235, 240g, or equivalent. Twice a week. Credit, 2 hours.

242g *Children's Dramatics Laboratory.* A continuation of practice in creative dramatics and formal dramatics as assigned. Work with Training School children. Prerequisites: Speech 235, 240g, and 241g or equivalent. Twice a week. Credit, 2 hours.

257g *Speech Correction.* Detailed study of the cause and correction of such minor defects of speech as lisping, nasality, dialects, and baby talk, and such major defects as cleft palate and paralytic speech, stuttering and stammering, tongue-tie speech, speech of the deaf, and abnormal voice qualities. Clinical practice in the College Speech Correction Clinic. Twice a week, and one hour of clinical practice. Credit, 3 hours.

258g *Speech Correction.* A clinical, laboratory course for intensive practice in the actual correction of speech defects. Seminar in conjunction for extensive acquaintanceship with literature in the field. Prerequisite: Speech 257. Hours to be arranged. Credit, 2, 4 hours.

259g *Clinical Practice.* Purely a laboratory course consisting of clinical practice in the College Speech Clinic. Open only to students of Speech Correction who have previously taken Speech 257 and 258. Both semesters, hours to be arranged. Credit, 1, 3 hours.

260g *Phonetics.* A practical study of phonetics, including the phonetic symbols, the production, the general characteristics and the application of the sounds of American speech in the acquisition and teaching of good pronunciation. Second semester, once a week. Credit, 1 hour.

# Department of Foreign Languages

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PORTNOFF (Head of Department), WILSON, HOMAN, ANDERSON,  
SHIRLEY

The Department of Foreign Languages offers courses designed to serve the professional and cultural needs of the student. The aim of the courses is to give facility in reading, writing, and speaking the language. In view of our proximity to the Latin-American countries, special emphasis is placed on Spanish and Hispano-American literature and civilization.

## Teacher-Education Curriculums

### Kindergarten-Primary and Elementary Curriculum.

*For Students Not Taking a Major or a Minor.* It is suggested that students wishing to take some work in Spanish may elect courses from among the following: Span. 101, 102, 103, 104, 120.

*For Students Desiring a Major in Spanish.* See below under Secondary Curriculum.

### The Secondary Curriculum.

Students taking a secondary curriculum and planning to teach Spanish in the secondary schools are required to take the following 30 semester hours in Spanish or their equivalents: Span. 101, 102, 103, 104, 203g, 204g, 205g, 206g, 220g. At least 14 semester hours must be in upper division courses.

The minor in Spanish includes the following courses or their equivalents: Span. 101, 102, 103, 104. The minor in French consists of: Fr. 101, 102, 103, 104. The secondary curriculum leads to the degree of Master of Arts in Education.

## Arts and Sciences Curriculums

*Degree.* Students completing the Arts and Sciences Curriculum with an area of concentration in Spanish receive the degree of Bachelor of Arts.

## Generalization Requirements.

All students seeking the B.A. degree must meet the generalization requirements of 48 semester hours listed under the Arts and Sciences Curriculums page 70 of the catalog.

## Area of Concentration In Spanish.

Students electing Spanish as a field of concentration must complete a minimum of 49 semester hours, exclusive of generalization requirements as outlined below.

*Prerequisite Courses.* Span. 101, 102 or their equivalents are prerequisites.

*Required Courses.* In addition to the 8 hours in prerequisite courses, the following 23 semester hours are required: Span. 103, 104, 203, 204, 205, 206, and 207 or 224.

*Optional Courses.* From the following optional courses, 18 semester hours must be selected; Eng. 151, 152, 153; French 103, 105; German 103, 104; Hist. 116, 120, 205, 207; Greek 101, 102; Latin 101, 102; Rus. 101, 102; Span. 151.

## French

**Fr. 101** *Elementary French.* For beginners. Grammar, reading, composition, and conversation. First semester, four times a week. Credit, 4 hours.

**102** *Elementary French.* A continuation of Fr. 101. Emphasis on reading and conversation. Prerequisite: Fr. 101 or equivalent. Second semester, four times a week. Credit, 4 hours.

**103** *Intermediate French.* Grammar review, and reading of modern novels, plays, and short stories. Prerequisite: Fr. 102 or equivalent. First semester, four times a week. Credit, 4 hours.

**104** *Advanced French.* Continuation of 103. Emphasis on reading and conversation. Second semester, four times a week. Credit, 4 hours.

**120, 121** *French Conversation.* Practical conversation designed to develop fluency and accuracy in the French language. Oral and written reports based on articles in current periodicals. Credit, 2 hours each semester. Prerequisites: French 101, 102.

**203** *The French Theatre.* Plays from Moliere, Corneille, Victor Hugo, and modern writers. Prerequisite: Fr. 103 or equivalent. Two times a week. Credit, 2 hours. Not offered in 1947-1948.

## German

Ger. 101 *Elementary German*. Grammar, reading and conversation. First semester, four times a week. Credit, 4 hours.

102 *Elementary German*. A continuation of Ger. 101, with emphasis on reading. Second semester, four times a week. Credit, 4 hours.

103 *Intermediate German*. Reading of modern novels, plays and short stories, composition and conversation. Prerequisite: German 102 or equivalent. Four times a week. Credit, 4 hours.

104 *Advanced German*. The work is similar to German 103 with greater emphasis upon rapid reading and oral expression. Outside reading in the student's field of interest. Prerequisite: German 103 or equivalent. Four times a week. Credit, 4 hours.

Greek 101, 102. *Elementary Greek*. The grammar of the classical and Koine periods with readings from representative Greek literature. Four times a week. Credit, 4 hours each.

## Latin

Lat. 101 *Elementary Latin*. A beginners' course for students desiring a general cultural background, and for majors in English and the sciences. Emphasizes vocabulary and derivations rather than grammar. First semester, four times a week. Credit, 4 hours.

102 *Elementary Latin*. A continuation of Lat. 101 with the use of a simple Latin reader. Second semester, four times a week. Credit, 4 hours.

## Russian

Rus. 101 *Elementary Russian*. Grammar, reading and conversation. First semester, four times a week. Credit, 4 hours.

102 *Elementary Russian*. A continuation of Rus. 101. Emphasis on reading and conversation. Prerequisite 101 or equivalent. Second semester, four times a week. Credit, 4 hours.

103 *Intermediate Russian*. Reading of modern novels, plays and short stories. Composition and conversation. Four times a week. Prerequisite: Rus. 102 or equivalent. Credit, 4 hours. Not offered in 1947-1948.

104 *Advanced Russian*. The work is similar to Rus. 103 with greater emphasis upon rapid reading and oral expression. Outside reading in the students field of interest. Prerequisite: Rus. 103 or equivalent. Four times a week. Credit, 4 hours. Not offered in 1947 1948.



## Spanish Language And Literature

Span. 101 *Elementary Spanish*. Designed to give the beginner a knowledge of the fundamentals of pronunciation and grammar. Open to beginners only. First semester, four times a week. Credit, 4 hours.

102 *Elementary Spanish*. A continuation of Span. 101 together with the reading of several elementary texts. Prerequisite: Span. 101 or equivalent. Second semester, four times a week. Credit, 4 hours.

103 *Intermediate Spanish*. Along with a review of grammar, reading is given which stresses vocabulary building and accuracy of expression. Prerequisite: Span. 102 or equivalent. First semester, four times a week. Credit, 4 hours.

104 *Advanced Spanish*. The work is similar to Span. 103 with greater emphasis upon rapid reading and oral expression. Prerequisite: Span. 103 or equivalent. Second semester, four times a week. Credit, 4 hours.

120, 121 *Spanish Conversation*. Practical conversation designed to develop fluency and accuracy in the Spanish language. Oral and written reports based on articles in current periodicals. Prerequisites: Span. 101, 102. Credit, 2 hours each semester.

151 *Commercial Spanish*. Aims to give the student a Spanish commercial vocabulary, to teach him to write and translate Spanish business correspondence, and to provide him with information regarding Spanish-American exports, imports and industry. Prerequisite: Span. 101 102 or equivalent. Offered summer only. Credit, 2 hours.

203g, 204g *Advanced Spanish Composition*. Translating of selected 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 or equivalent. Three times a week. Credit, 3 hours, each semester.

205g, 206g *Survey of Spanish Literature*. The chief characteristics of the Middle Ages, Renaissance and the Golden Age, the evolution of Spanish thought and literary ideals. Lectures, reading, discussion and reports. Conducted in Spanish. Prerequisite: Span. 204g or equivalent. Three times a week. Credit, 3 hours each semester.

207g *Spanish Literature of the Nineteenth Century*. A study of the Romantic dramatics of this century and the most representative novelists and poets of the second half of the century. Second semester, three times a week. Credit, 3 hours.

209g *Spanish Literature of the Golden Age.* The most important movements of the period through the study of Cervantes, Lope de Vega, Tirso de Molina, Calderon de la Barca and others. Lectures, reading, discussion and reports. Conducted in Spanish. Prerequisite: 204g or 205g. Three times a week. Credit, 3 hours.

220g *Teaching of Spanish.* Primarily for seniors majoring in Spanish and for teachers of high-school Spanish. Methods of presenting the subject matter in more attractive and practical ways. Prerequisites: Span. 103, 104, 203, 204 or equivalents. Credit, 2 hours.

224g *Spanish American Literature.* A study of the outstanding novelists and poets. First semester, three times a week. Credit, 3 hours.

227g *The Regional Novel.* The chief characteristics of the Spanish regional novel. Two times a week. Credit, 2 hours.

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## Department of Home Economics

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RANNELLS (Head of the Department) ELLIFF, ELLSWORTH,  
McCLURE, ESSIG

This department offers training designed to meet the needs of students of the following types: (1) Those who wish to prepare for the vocation of homemaking. (2) Those who wish to meet the requirements for vocational certification which prepares them to teach home economics in vocational high schools. (3) Those who wish to teach in this field in the elementary or junior high school. (4) Those wishing to secure a secondary certificate with a major in home economics. (5) Those wishing the special certificate in home economics. (6) Those who wish to prepare for vocations in home economics other than teaching or homemaking. (7) Those who desire a background for vocations other than those directly related to home economics.

## Teacher-Education Curriculums

### Kindergarten Primary and Elementary Curriculum.

*For Students Not Taking a Major or Minor.* It is suggested that prospective teachers may profitably elect some courses from the following: H. Ec. 101, 102, 103, 104, 106, 107, 110, 203, 207g, 209g, 215, 217g, 219g, 222g, 226g.

*For Students Desiring a Major or Minor.* Students wishing a major in Home Economics without a special or a vocational certificate in homemaking will take H. Ec. 101, 102, 105, 108, 203, 206 or 212g, 207g or 211, 209g, 214g, 215, 217g. Those desiring a minor in Home Economics will take 15 hours in the department. Home Economics 106 and 107 are recommended, and the remaining courses must be approved by the head of the department.

### The Secondary Curriculum.

The Vocational Certificate in Homemaking. Those seeking the vocational certificate in homemaking will take the following: H. Ec. 100, 101, 102, 104, 105, 108, 202g, 203, 206, 207g, 208, 209g, 211, 212g, 214g, 215, 217g; Chem. 110, 180; Biol. 172. This certificate entitles the holder to teach vocational homemaking courses in all schools.

The Special Certificate in Home Economics. It is recommended that students wishing to obtain the special certificate in Home Economics take the following: H. Ec. 101, 102, 105, 108, 203, 208, 206 or 212g, 207g or 211, 209g, 214g, 215, 217g, and Ed. 260. This certificate is valid only till September 1, 1950. It entitles the holder to teach Home Economics only in all schools except those receiving reimbursement from State and Federal funds for this work.

The Secondary Certificate. The secondary certificate is granted to those who meet the requirements of the secondary curriculum. The major and minor requirements in Home Economics for the secondary curriculum are the same as those listed above under the kindergarten-primary and elementary curriculums.

## Arts and Sciences Curriculums

*Degree.* The arts and sciences curriculum with an area of concentration in Home Economics leads to the degree of Bachelor of Science.

### Generalization Requirements.

Students seeking the B.S. degree with an area of concentration in Home Economics must meet the generalization requirements of 40 semester hours outlined on page 70 of the catalog.

### The Area of Concentration.

In addition to the generalization requirements, the student must have as prerequisites the following 10 semester hours: Art 102; Chem. 110; and General Science 110. The following 25 semester hours are required: H. Ec. 101, 102, 105, 108, 203, 209g, 214g, 215, 217g, and 12 hours must be selected from the following optional courses: H. Ec. 100, 104, 110, 202g, 206, 207g, 211, 212g, 219g, 226g.

## Preprofessional and Professional Curriculums

You will find an outline of these curriculums giving any requirements made by this department on pages 73-81 of the catalog.

## Technical Curriculums in Commerce

For students not planning to graduate from the college, short courses of one or more semesters will be planned to fit the interests and needs of the individuals concerned.

## Description of Courses Offered

H. Ec. 100 *Orientation to Home Economics*. A preview of the home economics field, including opportunities for employment at the end of the course. First year, first semester. Credit, 1 hour.

101 *Elementary Nutrition*. The fundamental principles of nutrition, the selection of an adequate diet, and the significance of food in its relation to health. Open to men and women. First semester. 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*. This course is planned to give students not taking either a major or minor in Home Economics a better understanding of everyday living. Establishment of the home, children in the home, management of physical and social life of the family group, family finances, food (the actual planning and preparing of some meals), clothing, and art appreciation with its application in the home are some of the topics to be covered. Fee, \$1.00. Credit, 3 hours.

104 *Home Nursing.* Information on good health for the family, special attention being given to care of the sick, a study of the mother through pregnancy and childbirth, and the care of the infant. Each semester. Credit, 1 hour.

105 *Applied Food Principles.* A study of the general principles of cookery and the nutritive facts involved. Open only to majors in the department. Fee, \$5.00. First semester, six hours a week. Credit, 3 hours.

106 *Food Preparation and Meal Service.* A consideration of the fundamental processes involved in food cookery, meal planning and table service. Designed especially for non major students. Fee, \$5.00. Each semester, six hours a week. Credit, 3 hours.

107 *Clothing Construction.* An elective course for students not majoring in Home Economics. The selection and construction of several inexpensive garments with emphasis on fundamental processes. Either semester, six hours a week. Credit, 3 hours.

108 *Clothing Construction.* Develops the principles of dressmaking through the construction of inexpensive garments. Experience in the selection of materials and design. Open only to major students. Second semester, six hours a week. Credit, 3 hours.

110 *Household Equipment.* The construction, selection and use of all types of household equipment is studied in detail. Second semester. Credit, 3 hours.

202g *Problems of the Consumer.* A study of the problems, wants, needs, and practices of the consumer buyer in the fields of foods, textiles, clothing, and home equipment. Considers the influence of advertising, retail stores, and government agencies on the consumer. Fee, 50 cents. Second semester. Credit, 2 hours.

203 *Child Development.* A study of the physical, mental, emotional and social development of the young child. Observation in the nursery school. Fee, 50 cents. Open to men and women. First semester, five times a week. Credit, 3 hours.

206 *Food for the Family.* Stresses the production, the economic selection, and nutritive value of foods, types of meals, and table service. Practice is given in planning, preparing and serving family meals. Open only to majors in the department. Prerequisites: H. Ec. 101, 105. Fee, \$3.00. Second semester, six hours a week. Credit, 3 hours.

207g *Nursery School Education.* Opportunity is given for directed teaching in the nursery school. Studies in the development of the

nursery school and the theories underlying current practices. Pre requisite: H. Ec. 203 or Ed. 234. Fee, \$1.00. Six hours a week. Credit, 3 hours.

208 *Home Economics Education.* A study of the philosophy, content and methods of teaching home economics applicable to both elementary and secondary schools. It includes much use of teaching aids, working out a home project, and emphasizes the part evaluation plays in such teaching. Fee, \$1.00. First semester. Credit, 3 hours.

209g *Family Relationships.* Aims to give better understanding of present day family life and some of the current problems. Preparation for marriage stressed. Open to men and women. Second semester. Credit, 3 hours.

211 *Advanced Clothing.* Deals with wool and silk construction problems, advanced fitting problems, good style and design, and making and assembling illustrative material for the teaching of clothing. Prerequisites: H. Ec. 102, 108. First semester, six hours a week. Credit, 3 hours.

212g *Advanced Nutrition.* A study of special problems in diet and nutrition. Prerequisite: H. Ec. 101. Fee, \$1.00. First semester. Credit, 3 hours.

214g *Home Management House.* Students live in the Home Management House for a six week period, and carry on all the duties involved in homemaking. Open only to senior home economics majors. Prerequisites: H. Ec. 104, 203, 206, 217. Fee, \$5.00 and board and room at the regular college rate. Second semester. Credit, 3 hours.

215 *Home Furnishing.* Considers the selection, combination, and arrangement of furniture; color schemes; choice of wall finishes, floor coverings, draperies, and accessories. Fee, 50 cents. First semester. Credit, 3 hours.

217g *Home Management.* A study of goals of homemaking, standards of living, the budgeting of time and income, household accounting, and the selection, care, efficient arrangement and use of the house and equipment. Fee, 50 cents. First semester. Credit, 3 hours.

219g *Textiles.* Textile fibers and the construction and finish of fabrics, their sources, characteristics, identification, and uses. Fee, 50 cents. First semester. Credit, 2 hours.

220g *The Elementary Curriculum in Home Economics.* A study of the elementary curriculum in home economics with emphasis on

adaptation to the needs of the groups to be served. It includes basic philosophy, content, methods, use of teaching aids, and evaluation. Provision for free exchange of teaching experiences. Attention to organization of guides which may be adapted to varying teaching situations. Offered summers only. Credit, 2 hours.

**222g** *The Teaching of Nutrition in the Elementary School.* Of service to all teachers and administrators who have a part in achieving the commonly accepted goal of "Better Nutrition for all of our People". Emphasis on desirable goals based on needs of groups to

be served. Ways and means that have proved effective will be studied. Exploration of pertinent available teaching materials and the latest available scientific investigations. Opportunity for developing special and unique problems will be provided. Fee, 50 cents. Offered summers only. Credit, 2 hours.

**224g.** *Evaluation in Home Economics Education.* Deals with newer concepts of the part of evaluation in the learning experience with emphasis on helping the learner to see his own growth. Newer testing instruments and techniques in the field of home economics education in both elementary and secondary areas. Prerequisite: H. Ec. 208. Fee, 50 cents. Offered summers only. Credit, 2 hours.

**226g** *The Teaching of Art Related to the Home.* Emphasizes use of methods for teaching the application of principles of art to problems of daily living. Much use will be made of pertinent illustrative material and opportunity will be provided to participate in practical teaching projects. Fee, 50 cents. Credit, 2 hours.

**Ed. 260** *Directed Teaching.* Majors must teach home economics for one-half semester under the supervision of the department. Prerequisite or parallel: H. Ec. 208. Either semester, every afternoon. Credit, 5 hours.

# Department of Industrial Arts

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NEEB (Head of Department), MERRITT, CAVALLIERE, KEITH, BAYLESS,  
BUTLER, MARTZ.

The chief purposes of the Industrial Arts program are the following: (a) Preparation for teaching, (b) preparation for work of an industrial, mechanical, electrical or academic type in order to prepare the student for service in industrial and commercial activities, and (c) preparation for the various trades.

## Teacher-Education Curriculum

### Kindergarten Primary and Elementary Curriculum.

*For Students Not Taking a Major or a Minor.* It is suggested that students desiring to do some work in this department may wisely select courses from the following: I. A. 100, 101, 103, 104, 105, 107, 111, 115.

*For Students Taking a Major or a Minor.* Students desiring a major in Industrial Arts should take a minimum of 30 semester hours of work including 6 hours each in 4 of the following divisions of the department: building and construction, electricity, mechanics, drafting, and aeronautics, including I. A. 211, 212. In each case half of the semester hours should be in upper division courses. Students taking a minor should have a minimum of 16 semester hours of work including I. A. 211, 212.

### Secondary Curriculum.

For students planning to teach in secondary schools a minimum of 30 semester hours of work is recommended. Twelve hours of work in each of 2 divisions of this department equally distributed between upper and lower division courses, and I. A. 211 and 212, are recommended. The minor consists of a minimum of 16 semester hours and should include I. A. 211, 212. Approximately half the work should be in upper division courses.

## Arts and Sciences Curriculum

This area of concentration is designed to provide technical training of an industrial, mechanical, electrical and academic type in order to prepare individuals for progressive service in industrial and com-



mercial activities. A minimum of 47 semester hours in industrial arts and technical subjects is required of all students with majors in this field.

*Degree.* Completion of the Arts and Sciences curriculum with an area of concentration in Industrial Arts leads to the degree of Bachelor of Science.

### Generalization Requirements.

All students seeking the Bachelor of Science degree will meet the generalization requirements of 40 semester hours listed under the Arts and Sciences curriculums found on page 70 of the catalog. In addition they must complete the work in the area of concentration as outlined below.

### Area of Concentration.

*Required Courses.* The following 17 semester hours or their equivalents are required: I. A. 100, 109, 111, 113, 122, 160, 211.

*Optional Courses.* The student must select at least 15 semester hours from one of the 5 groups of courses listed below. In addition he must select 15 hours which may be chosen from any of the Industrial Arts courses offered by the department.

Emphasis on Building and Construction. I. A. 158, 164, 203, 207, 208g, 217, 218, 224, 226, 258, 270g, 291g, 292g.

Emphasis on Electronics. I. A. 115, 116, 119, 123, 127, 154, 203, 205, 215, 216, 251, 287.

Emphasis on Mechanics. I. A. 101, 104, 107, 111, 112, 118, 157, 160, 170, 214, 223, 231, 219, 227, 228, 261.

Emphasis on Aeronautics. I. A. 131, 132, 135, 200, 204.

Emphasis on Drafting. I. A. 103, 105, 106, 113, 114a, 114b, 165, 166, 201, 202, 229, 240.

## Description of Courses

I.A. 100 *Elementary Electricity.* Designed to acquaint the student with practical electrical work, including splicing; soldering; light, bell and annunciator circuits. A prerequisite for all electrical and radio courses. Fee, \$6.00. Credit, 3 hours.

101 *Auto Ignition.* Prepares the student for commercial shop practice, and includes testing, recharging, and repairing storage batteries; ignition coils; distributors; lighting systems; fuses and circuit breakers. Machine shop practice. Fee, \$6.00. Two lectures, four hours laboratory. Credit, 3 hours.

103 *Mechanical Drawing*. A study of the elements of orthographic projection. Fee, \$3.00. One lecture, six hours laboratory each week. Credit, 3 hours.

104 *Auto Mechanics*. Repair of automobiles; complete overhaul of gasoline engines, timing, fitting of bearings, radiatory repairs, body and fender repairs. Fee, \$6.00. One hour lecture, 6 hours laboratory a week. Credit, 3 hours.

105 *Architectural Drawing*. For students preparing to teach in the junior and senior high schools or for architectural drafting and engineering work. Fee, \$3.00. One lecture, six hours laboratory a week. Credit, 3 hours.

106 *Architectural Drawing*. A continuation of I. A. 105. Complete plans and estimate of materials for a two story house. Open to all students. Prerequisite: I.A. 105. Fee, \$3.00. One lecture, six hours laboratory a week. Credit, 3 hours.

107 *Forge*. Combines study of, and practice in the elements of forging and blacksmithing, drawing, bending, upsetting, welding, case hardening, tempering, and allied topics. Fee, \$6.00. One hour lecture, 6 hours laboratory a week. Credit, 3 hours.

109 *Calculation*. The practical application of the fundamental arithmetical processes to problems of the shop with emphasis upon rapid calculations and theory and practical use of the slide rule. Three lectures a week. Credit, 3 hours.

110 *Blue Print Reading*. A study of blue prints and the symbols used in industrial practice in building and construction, machine shops, aeronautics, radio and electricity. Fee, \$2.00. Credit, 2 hours.

111 *Machine Shop*. A beginning course in machine shop practice including filing, drilling, turning, and polishing done with hand tools; and general use of machine equipment. Fee, \$6.00. One lecture, six hours laboratory. Credit, 3 hours.

112 *Machine Shop*. The making of industrial projects involving the use of the complete machine equipment of the department. Prepares men for machinists and auto mechanics, as well as for teachers in secondary schools. Fee, \$6.00. Prerequisite: I. A. 111. One lecture, six hours laboratory. Credit, 3 hours.

113 *Engineering Drawing*. A study of orthographic projections, lettering, tracing, and blue printing. Required of all engineering students. Prerequisite: one year high school drawing, or I. A. 103. Fee, \$3.00. One lecture, and six laboratory hours each week. Credit, 3 hours.

114a *Descriptive Geometry*. Designed for students majoring in mechanics. The elements of descriptive geometry, including problems in warped surfaces and intersections of solids. Prerequisite: I.A. 113. Fee, \$3.00. One lecture, six hours laboratory each week. Credit, 3 hours.

114b *Descriptive Geometry*. Same as I.A. 114a with emphasis on shades and shadows. Primarily for architectural and art students. Prerequisites: I.A. 105, 106. Fee, \$3.00. One lecture, six hours laboratory. Credit, 3 hours.

115 *Fundamentals of Radio*. An introduction to radio, including basic theory of vacuum tubes, amplifiers, tuned circuits, power supplies, detectors, oscillators, and allied subjects. Fee, \$6.00. Two lectures and 4 hours laboratory a week. Prerequisite: I. A. 100 taken concurrently. Credit, 3 hours.

116 *Transmitter and Receiver Theory*. A continuation of I. A. 115. A deeper study of self-excited oscillators, frequency doublers, buffers, RF amplifiers, modulation, modulators and speech amplifiers, transmission lines and antennae, detectors, I-F systems, limiters, discriminators, AVC and AFC systems, radiation problems. Fee, \$6.00. Two hours lecture, 4 hours laboratory a week. Prerequisites: I. A. 100, 115. Credit, 3 hours.

118 *Industrial Machine Shop Practice*. Gives practical training in machine shop practice. The following regular courses in Industrial Arts together with twelve semester hours of supplemental work compose this course: 110, 111, 112, 219, 223, 231. The course runs six hours per day throughout the college year. Among the topics and processes included are the following: accepted shop standards; techniques, theory, and calculations necessary to progress in this work; use of tools; bench work; lathe work; drill press operations; operations on the shaper; use of planer; milling machine; grinding. Twenty-four hours of work satisfactorily completed may be used to meet in part the requirements for a major in the department of Industrial Arts. Laboratory fee, \$50 per semester. Minimum of twelve students required. Credit, 12 hours a semester.

119 *Industrial Electronics*. Designed to acquaint the student with the part that electronics plays in the industrial field, including a study of the applications to the field of motor control, refrigeration, heating, safety devices, telephone, timelocks, pressure instruments, timing, calorimeters, speed indicators, and other appliances. Fee, \$6.00. One hour lecture, 3 hours laboratory a week. Prerequisite: I. A. 100. Credit, 2 hours.

120 *Principles of Vacuum Tubes.* The principles, construction and operation of the diode, triode, tetrode, pentode, and other multi element and dual purpose vacuum tube , special tubes such as gaseous types and discharge tubes, cathode ray tubes, klystrons, magnetrons, and their application in typical electronic circuits. Fee, \$6.00. Two lectures, 4 hours laboratory a week. Prerequisite: I. A. 100. Credit, 3 hours.

121 *Wood Work.* A course in the basic types of furniture construction and furniture repair suitable for use in junior high school shop work. No machine work. Fee, \$6.00. One lecture, six hours laboratory a week. Credit, 3 hours.

122 *Cabinet Making.* Gives practice in the proper use and care of hand tools. The correct use of machines is emphasized. A study of the fundamental principles involved in furniture construction. Fee, \$6.00. One lecture, six hours laboratory a week. Credit, 3 hours.

123 *Toy Construction.* Instruction in the making and use of patterns and figures in the construction of all types of toys, children's furniture, and small projects. Each student works out a group of original mounted models. Fee, \$6.00. Credit, 3 hours.

127 *Aircraft Radio.* A study of radio used in commercial and private plane and ground installations and the questions and answers for the Restricted Radiotelephone Permit. Includes a study of aircraft radio, receivers, markets, altimeters, direction finders, radio range and beacon systems, special navigation aids, aircraft wiring, bonding, and power supply systems. Fee, \$6.00. Two lectures, 4 hours laboratory a week. Prerequisites: I. A. 100, 115. Credit, 3 hours.

131 *Aircraft Engines.* Provides training in the disassembly and assembly of aircraft engines including a complete top overhaul, timing of engines, and synchronizing of magnetos. Information relative to carburetion, ignition and oiling systems necessary for a complete understanding of the operation of aircraft engines. Fee, \$6.00. One lecture, six hours laboratory a week. Credit, 3 hours.

132 *Airplane Mechanics.* All types of wood rib construction, use of power sewing machine, covering, together with doping and painting of covered surfaces. Course will also include riveting and information concerning use of metals for aircraft construction. Fee, \$6.00. One lecture, and six hours laboratory a week. Credit, 3 hours.

133 *Plastics.* A study of the practical uses of plastics and their uses as an educational medium for school work shops, hobby shops, recreational shops, and industry. Fee, \$10.00. Credit, 3 hours. Six hours per week.

135 *Aircraft Maintenance.* A course designed to give practical training in various types of work required of airplane mechanics. The course runs six hours a day through the college year. The course includes I.A. 132. Topics and processes covered include the following: aircraft wood work, metal working, fabric work, rigging, and maintenance and inspection of the same. Credit, 12 semester hours each semester. Twenty four semester hours, satisfactorily completed, may be used to meet in part the requirements for a major in the department of industrial arts. Laboratory fee, \$50.00 per semester. Minimum of twelve students required.

145 *Elementary Surveying.* Care, adjustment and use of surveying instruments, and computations. One lecture, six hours of laboratory per week. Fee, \$6.00. Credit, 3 hours.

151 *Broadening and Finding.* For students preparing to teach in the junior and senior high schools. Consists of model work, boats, steam engines, electrical motors, and similar projects, and special problems in woodworking, machine shop, radio, or electricity. Fee, \$6.00. One lecture, six hours laboratory a week. Credit, 3 hours.

154 *House Wiring.* The chief topics are the installation of lighting circuits, underwriters' regulations, conduit work, and the estimation of cost. Fee, \$6.00. Two lectures, four hours laboratory. Credit, 3 hours.

157 *Jigs and Fixtures.* The design and construction of various devices that facilitate shop production in quantities. Fee, \$6.00. Credit, 3 hours.

158 *Building and Construction.* A course designed to give students preparation for entrance into construction work involved in home building, the erection of other buildings, and heavy timber construction. Six hours per day throughout the college year will be spent in the study of building design and generally accepted methods of construction. The following regular Industrial Arts courses together with six semester hours of supplemental work compose the course: I. A. 105, 122, 145, 207, 208, 211, 217, 218. Topics and processes covered are: foundations, framework, mill work, steel square, cement work, plastering, paint, contracting. Credit, 12 semester hours each semester. Twenty four semester hours of work satisfactorily completed may be used in part to meet the requirements for a major in the department of Industrial Arts. Laboratory fee, \$50 per semester. Minimum of twelve students required.

160 *Sheet Metal Work.* Prepares the student to teach in junior high school. Laying out and cutting of sheet metal; soldering; riveting; projects including utensils and toys. Prerequisite: I. A. 113. Fee, \$6.00. One lecture, six hours laboratory. Credit, 3 hours.

163 *Wood Turning.* Drills in spindle, face plate, and chuck work, together with practice in finishing and polishing. Fee, \$6.00. One lecture, six hours laboratory a week. Credit, 3 hours.

164 *Patternmaking.* Beginners course in patternmaking. Use and operation of all types of woodworking machinery. Study of drafts, shrinkage, finish, warp and stakes. Construction of patterns, and making of molds and several castings. One hour lecture, six hours laboratory a week. Fee, \$6.00. Credit, 3 hours.

165 *Industrial Drafting Room Practice.* Designed to give suitable training on a college level to those who wish to prepare for either the architectural or engineering professions. Six hours daily throughout the college year will be given to the study of accepted practices and theory of design and construction. This course is composed of the following regular courses together with six semester hours of supplemental work: I.A. 103, 105, 106, 113, 201, 202. Topics covered in mechanical drafting are: Orthographic projection; geometrical problems; shop sketching; one, two, and three view drawing; details; sections; isometric projections; perspective; problems in intersection of planes and curved or irregular surfaces; design of elementary mechanisms and machine parts. Among the topics covered in architectural drafting are the following: architectural details, single story house plans and design, two story house plans and design, design of farm buildings, blue print reading and estimating, perspective, shades and shadows, coloring, supervision of construction. Credit, 12 semester hours each semester. Twenty four semester hours of work satisfactorily completed may be used to meet in part the requirements for a major in the department of Industrial Arts. Laboratory fee, \$50 per semester. Minimum of twelve students required.

166 *Architectural Drafting Room Practice.* For those who seek employment in architectural drafting rooms. Six hours daily throughout the college year. Topics covered are: lettering, architectural elements and details, shop sketching, home planning, dimensioning, orthographic projections, isometric and perspective drawing, descriptive geometry, shades and shadows, rendering inking and washes. Fee, \$50 per semester. Credit, 12 hours each semester.

179 *Welding.* Oxygen-acetylene welding. Various types of welds, laying, use of fluxes on both light and heavy work. Fee, \$20. Credit, 3 hours.

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. Arrangements for flight instruction will be made for students desiring the same. Flight instruction costs are extra. Fee, \$4.00. Four times a week. Credit, 4 hours.

201 *Architectural Drawing*. A study of some of the best classical elements in architecture, and of the fundamentals of design. Prerequisites: I.A. 114b, 106. Fee, \$3.00. One lecture, six hours laboratory a week. Credit, 3 hours.

202 *Architectural Drawing*. A series of problems involving a study of the principles of architectural composition. Prerequisite: I.A. 201. Fee, \$3.00. One lecture, six hours laboratory a week. Credit, 3 hours.

203 *Direct Current Electricity*. This course is a continuation of I. A. 100 and deals with circuits involving direct currents, covering study of wire characteristics; study of test equipment such as voltmeters, ammeters, wattmeters, bridges; topics such as magnetism, electro-magnetics, commutation, armature reactance; installation, operation, and maintenance of direct current equipment. Fee, \$6.00. Two hours lecture, four hours laboratory a week. Prerequisite: I. A. 100. Credit, 3 hours.

204 *The Secondary Ground School Course*. Consists of a minimum of 128 hours in the following subjects: Aerodynamics and Structures, 32 hours; Navigation, 48 hours; Powerplants, 48 hours. Prerequisite: C.A.A. 200. Passing of Government Examination required for college grade. Fee, \$8.00. Eight lectures per week. Credit, 8 hours.

205 *Radio Code*. Sending and receiving of radio code messages using International Morse Code. Speed attained at close of course is ten words. Operation of communication receivers. Signals using light reception. Fee, \$4.00. Credit, 2 hours.

206 *Advanced Plastics*. An advanced study of plastics with emphasis on materials, machine operations, carving, cementing; embossing and inlaying. Prerequisite: I. A. 133. Six hours a week. Fee, \$10.00. Credit, 3 hours.

207 *Cabinet Making and Mill Work*. Deals with advanced types of furniture; construction, and tenoning; panel construction; methods of gluing; the application of finishes; design; the use of power machines. Prerequisite: I. A. 122. Fee, \$6.00. One lecture, six hours laboratory a week. Credit, 3 hours.

208g *Carpentry and House Construction*. Construction problems involved in the erection of building emphasizing the use of the steel

square and carpenters' tools; sharpening of cutting tools; framing processes; short cuts; trade terminology. Fee, \$6.00. One lecture, six hours laboratory a week. Credit, 3 hours.

210 *Blue Printing and Developing*. Blue print making and developments according to industrial specifications. Recommended for all students with majors or minors in drafting, building and construction, mechanics, and teaching. Fee, \$4.00. One lecture, three hours laboratory a week. Credit, 2 hours.

211 *Job Analysis*. Jobs are analyzed into their various steps and their relationship is studied. This course is necessary in curriculum building. Fee, \$4.00. Two lectures and two laboratory demonstrations per week. Credit, 2 hours.

212 *Curriculum Making*. For students preparing to teach. Trade and technical material, tool processes, occupational information, and job analysis are arranged to form effective teaching guides. Prerequisite: I. A. 211. Fee, \$4.00. Two lectures and two laboratory demonstrations per week. Credit, 2 hours.

213 *Sheet Metal*. Problems in roofing, cornice work, practical intersections; and development and use of sheet metal machines. For students preparing to teach in the secondary schools, or work in the trade. Fee, \$6.00. One lecture, six hours laboratory a week. Prerequisite: I. A. 160. Credit, 3 hours.

215g *Micro wave Techniques*. A study of micro-wave generating and receiving systems involving such tubes as klystrons, magnetrons, inductive tubes; pulsing systems; timing circuits; wave guides; antennae and associated plumbing; special equipment such as radar, altimeters proximity fuses, ranging devices. Testing for minimum usable signal, spectrum analysis, frequency, power output, and pulse length. Installation, maintenance, and operation of typical radar equipment. Fee, \$6.00. Two hours lecture, four hours laboratory a week. Prerequisites: I. A. 115, 116. Credit, 3 hours.

216g *Radio Frequency Tests and Measurements*. General design and construction of advanced electronic testing equipment including vacuum tube voltohmmeters, oscilloscopes, frequency meters, radio-frequency bridges, signal generators, frequency and modulation monitors, audible and visual null detectors, wave analyzers, and application to laboratory and field work. Fee, \$6.00. Two hours lecture, four hours laboratory a week. Prerequisites: I. A. 115, 116. Credit, 3 hours.



217 *Stair Building.* Construction of straight stairways, platforms, and circular stairways to one third scale. Prerequisite: I. A. 208. Fee, \$6.00. One lecture, six hours laboratory a week. Credit, 3 hours.

218g *Steel Square and Roof Framing.* A study of problems involving the use of the steel square in carpentry, framing, stair building, and sheet metal. Prerequisite: I. A. 208. Fee, \$6.00. One lecture, six hours laboratory a week. Credit, 3 hours.

223 *Tool Design and Grinding.* Construction, sharpening, and honing of various cutting tools. Study of the care and use of wood cutting tools and the rate and clearance needed for metal cutting tools. Fee, \$6.00. Credit, 3 hours.

224 *Estimating and Contracting.* Making cost analysis of various types of structures and the cost analysis of the utilities placed in the same. Procedures are studied concerning property, titles, mechanic liens, obligations of contractors, etc. Fee, \$3.00. Credit, 3 hours.

225 *Aircraft Instruments.* The construction and operation of instruments used with aircraft powerplants and also those recommended for successful flight operation. Fee, \$6.00. Credit, 3 hours.

227 *Auto Mechanics.* A continuation of I. A. 104, including advanced work in cylinder boring, cylinder honing, and dual ignition systems. Fee, \$6.00. One lecture, six hours laboratory each week. Prerequisite: I. A. 104. Credit, 3 hours.

228 *Auto Ignition and Repairs.* A continuation of I. A. 101. Study of repairing, adjusting, and testing of generators, starting motors, magnetos, and other electrical equipment found in the modern automobile. Fee, \$6.00. One hour lecture, six hours laboratory a week. Prerequisite: I. A. 101. Credit, 3 hours.

231 *Machine Shop.* Designed to give the student special preparation in the care and use of milling machines, the cutting of spur, worm and bevel gears. Plain and direct indexing. Study of various cutters and their upkeep. One hour lecture, 6 hours laboratory. Fee, \$6.00. Credit, 3 hours.

232 *Machine Shop.* A study of planers, their care, methods of holding work, the uses of fixtures, gauges, and tools. Adjustment of belting to meet various demands for speed and power. Fee, \$6.00. One lecture, six hours laboratory a week. Prerequisite: I. A. 231. Credit, 3 hours.

233 *Electric Arc Welding.* Designed to give the student the fundamentals of arc welding on levels commensurate with the standard commercial and industrial plants. A study of localized consolidation

of metals are offered the student. To make satisfactory butt welds, lap welds, spot welds, ridge welds, T welds. Fee, \$20. One lecture, six hours laboratory a week. Prerequisite: I. A. 179. Credit, 3 hours.

251 *Alternating Current Electricity.* A continuation of I. A. 100. A study of alternating currents and voltages, inductive and capacitive reactances, impedance, power, power factor, single and polyphase circuits, the production and uses of polyphase voltages, and the theory, operation and maintenance of alternating current machines. Fee, \$6.00. Two hours lecture, four hours laboratory a week. Prerequisite: I. A. 100. Credit, 3 hours.

252 *Broadening and Finding.* A continuation of I.A. 151, with some machine lathe practice, drill press work, milling machine work, and special problems. Fee, \$6.00. One lecture, six hours a week. Credit, 3 hours.

255 *Teaching of Industrial Arts.* Designed for students preparing to teach Industrial Arts in the making of lesson plans, and the presentation of materials to students. Fee, \$3.00. Two lectures, three hours laboratory a week. Credit, 3 hours.

257g *Supervision and Administration of Industrial Arts.* Shop organization including the general principles of supervision applied to the teaching of shop classes and the practical application of industrial training to production. Classification of tools, tool operations, and projects. Purchasing of supplies and equipment. Prerequisites: 211, 212, or equivalent. Fee, \$3.00. Three hours a week. Credit, 3 hours.

258 *Utilities Service.* Gives essential information in pipe cutting, threading, and fitting, calking, and roughing in, venting pipe lines, setting up toilet fixtures including study of plumbing requirements in home building. Fee, \$10.00. One lecture, six hours laboratory a week. Credit, 3 hours.

261 *Sheet Metal Layout and Construction.* Sheet metal layout of an industrial character including all types of air ducts, cornice work, pipe construction, irregular fittings. Fee, \$6.00. One lecture, six hours laboratory. Prerequisite: I. A. 213. Credit, 3 hours.

291g *Building Design.* General construction layouts for building including electric wiring, plumbing, air conditioning specifications, etc. For those planning to teach in secondary schools, to enter architectural work or the industrial field. Fee, \$6.00. One hour lecture, 6 hours laboratory a week. Credit, 3 hours.

292g *Advanced Building Design.* A continuation of I. A. 291g. Concrete mixes, reinforced concrete structures, bending moments,

shear and bending stresses, rectangular, T beams, plates, columns, walls and foundations. Fee, \$6.00. One hour lecture, 6 hours laboratory a week. Prerequisite: I. A. 270. Credit, 3 hours.

293g *Materials and Methods of Construction*. Familiarizes the student with the properties, and uses of various building materials such as lime, gypsum, cement, wood, brick, stone, cement blocks, terra cotta, plaster, and roofing materials. The application of such materials as flooring, plastering, stucco work, plumbing, air conditioning, doors and windows, interior and exterior trim, paint, glass, glazing, and the specialized use of iron, steel, and wood in trusses. Fee, \$3.00. One hour lecture, 6 hours laboratory a week. Credit, 3 hours.

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## Library Science

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### BACHELOR (Librarian)

L. S. 203 *Book Organization*. An elementary study of the principles and practices of the Dewey Decimal classification, simplified cataloging, subject headings, alphabeting and filing. Designed especially for the small public or school library. Fee, \$1.00. Credit, 3 hours.

205 *Library Book Selection*. An introductory study of the techniques and problems of selecting books for the school or small public library, with attention given guides and aids, reading interests and patterns, publishers and dealers, acquisition and preparation. Fee, \$1.00. Credit, 3 hours.

206 *School Library Administration*. A study of the school library, its educational backgrounds and aims, activities and functions, personnel and management, materials and equipment, organization and administration. Credit, 3 hours.

240 *Book Service*. A survey of the principles and practices of the loan, reference and reading guidance services suitable for the small public or school library. Fee, \$1.00. Credit, 3 hours.

# Department of Mathematics

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WEXLER (Head of the Department), LYON

Extensive work in mathematics is absolutely essential for any kind of scientific career. The amount of necessary mathematics varies from a minimum of a course in Calculus in fields such as modern Biology to a large amount of graduate mathematics in such fields as Astronomy and Physics. For most branches of engineering, mathematics through Advanced Calculus and Differential Equations is necessary. In fact a student's ability in mathematics serves as an excellent criterion of his future success or failure in engineering or science.

Especially capable persons should seriously consider a career in mathematics. An increasing number of industrial organizations as well as government agencies are employing professional mathematicians. Pure mathematical research has increased and is increasing at a tremendous rate, with fascinating implications recently in the fields of linguistics, logic and philosophy.

## Teacher-Education Curriculums

### The Kindergarten-Primary and Elementary Curriculum.

Basic Mathematics is the only course in mathematics required in these two curriculums. For students desiring further work in mathematics such courses as the following are recommended: Math. 101, 107, 110, 118.

### The Secondary Curriculum.

*For Prospective High School Teachers.* Students pursuing the curriculum will take at least one course in mathematics in each of the eight semesters. Advanced Calculus, 221g, 222g, and two other upper division courses are required.

The suggested sequence of courses in mathematics is as follows: Math. 119 (or Math. 106, 107, 118 for students with little or no high school mathematics) followed by Math. 120, 122, 123, 221g, 222g plus two or more upper division courses decided upon in consultation with the departmental adviser.

The minor consists of a minimum of 15 semester hours of work in mathematics, and should include at least one semester of Advanced Calculus.

## Arts and Sciences Curriculums

*Degrees.* Students completing the arts and sciences curriculum receive the degree of Bachelor of Arts, or Bachelor of Science depending upon the work selected to meet the generalization requirements.

### Generalization Requirements.

These requirements are outlined on page 10 of the catalog.

### Areas of Concentration.

*Required Courses.* The following courses are required: Math. 119 (or 106, 107, 118) followed by 120, 122, 123, 221g, 222g and two or more upper division courses decided upon in consultation with departmental adviser.

## Courses in Mathematics

**Math. 105 *Basic Mathematics.*** A consideration of the role of mathematics in our culture as well as mastery of certain basic techniques. Topics include the number concept, arithmetical reasoning, direct and indirect measurement, charts and graphs, and use of formulas. For the degree of Bachelor of Arts in Education, Math 105 is required. For the degree of Bachelor of Arts, Math. 105 or 210 is required. Either semester. Credit, 3 hours.

**106 *Intermediate Algebra.*** A first course in algebra for students with little or no high school mathematics. Either semester. Credit, 3 hours.

**107 *College Algebra.*** Intensive review. Study of progressions, permutations and combinations, probability, determinants, theory of equations. Either semester. Credit, 3 hours.

**118 *Trigonometry.*** Solution of triangles, logarithms, identities and equations. Either semester. Credit, 3 hours.

**119 *Algebra and Trigonometry.*** Subject matter equivalent to Math. 107, 118 in one semester. This course should be taken by the above average students in place of 106, 107, 118, if he intends to go on in mathematics. First semester. Credit, 4 hours.

**120 *Plane Analytic Geometry.*** Coordinate systems, the 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. Second semester. Credit, 4 hours.

**122, 123 *Calculus.*** Differential and integral calculus, and more analytic geometry; applications to physics. Prerequisite: Math. 120. Credit, 4 hours each.

210 *Fundamentals of Mathematics*. A broad cultural survey of mathematics with a minimum of technical preparation. For above average juniors and seniors only. Offered summer of 1947 only. Credit, 3 hours.

221g, 222g *Advanced Calculus*. Multiple integrals, partial differentiation and applications; line integrals; improper definite integrals; differential equations; complex quantities; other topics as time allows. Prerequisite: Math. 122. Credit, 3 hours each.

241g, 242g *Theory of Functions*. Concepts of limits, continuity, derivatives, epsilon proofs. Introduction to the theory of functions of a complex variable. Prerequisite: Math. 222g. Credit, 3 hours each. Not offered 1947-1948.

243g *Analytical Mechanics*. Vectors; forces in equilibrium; dynamics. Prerequisite: Math. 122. Credit, 3 hours. First semester 1947-1948.

255g *Theory of Numbers*. The properties of whole numbers. Prerequisite: Math. 107 or 119. Credit, 3 hours. Not offered 1947-1948.

256g *Projective Geometry*. Analytic study of the projective properties of figures. Credit, 3 hours. Not offered in 1947-1948.

257g *Theory of Finite Groups*. Groups of permutations; the Galois theory. Credit, 3 hours. Not offered in 1947-1948.

258g *Differential Geometry*. Three dimensional curves and surfaces and their properties. Credit, 3 hours. Not offered in 1947-1948.

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## Department of Music

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Harelson (Head of the Department), Barkley, Bullock, Dresskell, Hargiss, Henshaw, McKernon, Quaid

Courses offered by the Music Department are planned to meet the needs of students registered under any of the Teacher-Education, or Arts and Sciences Curriculums.

*Admission Tests for Majors*. Students planning to major in music under any of the curriculums, must take certain tests to determine their general musical aptitude and achievement, and their special accomplishments in voice or on instruments, as outlined below. (1) Voice. The student must demonstrate ability to sing one or more songs with well-produced tone; good intonation, clear diction, and musicianly interpretation. Songs may be drawn from the simpler art songs such as those by Franz, from oratorios, or opera arias, or from modern compositions. (2) Piano. Students should be grounded in correct touch

and reliable technique; be able to play all major and minor scales correctly at M.M. 72 in quarters, eighth, and sixteenth notes, and arpeggios on all major and minor triads at M.M. 72; and should have acquired systematic methods of practice. They should have studied some of the standard etudes such as Czerny Op. 299, Book I; Heller Op. 46 and 47; Bach's Little Preludes; compositions corresponding in difficulty to the Haydn Sonatas No. 11 and No. 20, and the Mozart Sonatas No. 3 in C Major and No. 13 in F. major. (3) Violin. Student must show a knowledge of the following: The first five positions; scales in single tones in all keys with a variety of bowings; arpeggios in all keys; etudes Kreutzer, Mozart, Book I; Sevcik studies; concertos: Viotti No. 23, DeBeriot No. 9; Sonatas Grieg F Major, Handel, Haydn, and easier Beethoven.

*Attendance at Recitals Required.* All students taking a major, or an area of concentration in music are required to attend all student and faculty recitals.

*Fees for Private Lessons.* For two half hour lessons per week in piano, voice, violin, violincello, band and orchestral instruments, the fee is \$36.00 per semester. For one half hour lessons per week the fee is \$27.00 per semester.

*Fees for Class Lessons.* With six 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.* The rental for school owned solo instruments is \$2.50 per semester. Any student using a college owned instrument will be held financially responsible for any damage done to it from the time he received it until the time it is returned and inspected at the close of the semester.

*Registration and Other Fee.* 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 of actual illness or other emergency beyond the control of the student, a refund of not more than one half of the semester fee paid for any form of applied music may be refunded to a student withdrawing from a class or dropping from the college.

## Teacher-Education Curriculums

### The Kindergarten Primary Curriculum.

Students qualifying for the kindergarten primary and kindergarten elementary certificates must present evidence of proficiency in

sight-singing, sight reading, and piano accompaniments. It is recommended that students who are not proficient in any of these phases of music take any or all of the following in order to acquire such proficiency: Music 100, 102, 125, 126 in the Freshman year; 127 and 128 in the Sophomore year; and 250 in the Junior year. Any further courses desired may be taken as electives in the field of the student's special interest.

### The Elementary Curriculum

*For Students Not Taking a Major or Minor.* Students not specializing in music may elect any work in theory, voice, or instruments for which they have sufficient background.

*For Students Majoring in Music.* Students registered under the elementary curriculum with a major in music will meet the requirements outlined below:

Freshman year: Mus. 100, 102, 109; piano, 2 hours; voice or instrument, 2 hours; glee club, band, or orchestra, 2 hours.

Sophomore year: Mus. 103, 104, 143, 144; piano, 2 hours; voice or instrument, 2 hours; glee club, band or orchestra, 2 hours.

Junior year: Mus. 205, 207, 211, 212; instrumental instruction, 2 hours; glee club, band, or orchestra, 2 hours.

Senior year: Mus. 202, 203, instrumental instruction, 2 hours; glee club, band, or orchestra, 2 hours.

When possible the student should take Mus. 201, 284, 288, and 292 as electives. Each student is required to give a satisfactory performance in a public joint recital.

### Secondary Curriculum.

Students registered under the secondary curriculum with a major in music and planning to teach music in secondary schools must take the music courses listed under the elementary curriculum for the first four years. During the fifth year a maximum of 15 hours in advanced courses in theory and applied music may be taken. Each student is required to give a public recital both in the junior and senior year.

## Arts and Sciences Curricula

*Degree.* Students completing an Arts and Sciences curriculum with an area of concentration in Music receive the degree of Bachelor of Arts.

### Generalization Requirements.

Students seeking the Bachelor of Arts degree must have the generalization requirements of 48 semester hours outlined on page 70 of the catalog. In addition they must complete the area of concentration as outlined below.



### Area of Concentration.

Students taking an area of concentration in Music must take 54 semester hours of work as outlined below.

*Prerequisite Courses.* The following 6 semester hours are prerequisite to other courses: Mus. 100, 102, 109. Students who pass a proficiency test in Mus. 100 and 102 may, with the permission of the adviser, be excused from taking these courses and may substitute four hours of electives, preferably academic.

*Required Courses.* The following 24 semester hours are required: Mus. 103, 104, 133, 134, 143, 144, 201, 202, 203, 205, 207, 288.

*Optional Groups of Courses.* Each student taking Music as his area of concentration will select one of the three phases of emphasis indicated below, and will complete 24 semester hours of work in it.

(1) *Emphasis on Voice.* Students selecting voice as an emphasis will take 12 hours in voice as follows: Mus. 105, 106, 107, 108, 237, 238, 239, 240; four hours from the following in piano: Mus. 113, 114, 115, 116 (with the approval of the instructor Mus. 121, 122, 123, 124 may be substituted); and eight hours in activity courses which may include chorus, band, orchestra, and small vocal and instrumental ensembles.

(2) *Emphasis on Violin.* Twelve hours are required in violin: Mus. 171, 172, 173, 174, 271, 272, 273, 274. Four hours are required in piano. These courses are the same as given under the "Emphasis on Voice". Eight hours are required in activity courses. See the list under "Emphasis on Voice".

(3) *Emphasis on Piano.* Twelve hours are required in piano: Mus. 113, 114, 115, 116, 233, 234, 235, 236. Four hours are required in voice or instrument. A choice may be made between voice or another instrument. Eight hours are required in activity courses. See the list under "Emphasis on Voice".

*The Minor 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. 100, 102, 109, 211, 212. In addition, courses should be chosen from applied music, piano, voice, glee club, or orchestra. For a minor in instrumental music the following sequence is recommended: Mus. 100, 102, 103, 109, 207. Work in band and orchestra should be included.

## Courses in Music

Mus. 100 *Fundamentals of Music.* A study of the basic elements of music with emphasis on notation, rhythm, formation of the major and

minor scales, sight singing with and without syllables, and creative melodic writing. First year, either semester, twice a week. Credit, 2 hours.

102 *Sight Singing and Ear Training.* Further development of music reading with special attention to aural recognition and writing. Prerequisite: Mus. 100. First year, either semester, twice a week. Credit, 2 hours.

103 *Harmony I.* Intensive study of the grammar and structure of music with particular emphasis on four-part harmonic writing. The material covered includes interval and triad study; melodic writing; and four-part writing in triad root positions, first inversions. Prerequisite: Mus. 102. Second year, first semester, twice a week. Credit 2 hours.

104 *Harmony II.* Continuation of Music 103. Additional study of harmony, and development of melody writing, composition and musical form. Prerequisite: Music 103 or equivalent. Twice a week. Credit, 2 hours.

105, 106 *Voice—Private Instruction.* Voice building for beginners. Either semester, two lessons a week and five hours practice. Credit, 1 hour each.

107, 108 *Voice—Private Instruction.* Second year, further development in technique of voice production in singing. Prerequisites: Mus. 105, 106 or equivalent. Either semester, two hours a week. Credit, 1 hour each.

109 *Music Appreciation.* Designed to develop judgment and discrimination in listening to music. The material used consists largely of phonographic recordings. First year, first semester, twice a week. Credit, 2 hours.

111, 112 *Class Voice.* For music majors and minors, and kindergarten-primary majors with little or no previous training in voice. Either semester, twice a week. Credit, 1 hour each.

113, 114 *Piano—Private Instruction.* Courses arranged to meet the needs of students. Opportunity for public performance is provided through informal afternoon recitals during freshman and sophomore years. Either semester, one or two lessons a week. Credit, 1 or 2 hours each.

115, 116 *Piano—Private Instruction, Second Year.* Either semester, one or two lessons a week. Credit, 1 or 2 hours each.

121, 122 *Class Piano.* For music majors or minors, first year. Study of the elements of piano, keyboard technique and sight-reading of simple folk songs and studies. First and second semesters, two lessons a week. Credit, 1 hour each.

123, 124. *Class Piano*. For music majors and minors, second year. Study of more advanced keyboard technique, sight-reading and memorization of repertoire. Either semester, one lesson a week. Credit, 1 hour each.

125, 126 *Class Piano*. For kindergarten primary majors. First semester, a study of elements of keyboard technique and sight reading of folk song material in all keys. Second semester, sight reading, improvisation and kindergarten primary rhythms. Either semester, two lessons a week. Credit, 1 hour each.

127, 128 *Class Piano*. For kindergarten-primary majors. Second year. Further study of kindergarten-primary literature and technique necessary to fluency of performances. Either semester, one lesson a week. Credit, 1 hour each.

130 *Introduction to Music*. A non technical study of the general field of music, with attention toward the correlation of music with literature, science and art. Each semester. Twice a week. Credit, 2 hours.

133, 134 *Sight Singing*. Study of advanced materials in sight singing and ear training. Required of all students registered under the Arts and Sciences curriculum. Prerequisite: Mus. 102. Second year, both semesters, twice a week. Credit, 2 hours each.

135, 136 *Male Quartet*. Training in, and performance of works for small vocal ensembles. An audition is required for admission. Each semester, twice a week. Credit, 1 hour each.

Mus. 141 *Music Fundamentals for Kindergarten and Elementary Teachers*. The first half of a year's course for those preparing to teach in kindergarten and elementary grades. Concerned with the basic elements and skills needed to direct music activities in the classroom. Includes musical games, rhythms, playing simple instruments, and singing with and without syllables. First semester. Credit, 2 hours.

142 *Music Fundamentals for Kindergarten and Elementary Teachers*. The second half of the course for teachers described above. Prerequisite: Mus. 141. Second semester. Credit, 2 hours.

143, 144 *Keyboard Harmony*. Designed to give a thorough training in the melodic, harmonic and rhythmic elements of music. The first semester includes the four types of triads, intervals, keys, scales, cadences, notation, rhythmic reading, sight-singing, melodic dictation and harmonic dictation. In the second semester seventh chords, key relationships and modulation. Melodic dictation and harmonic dictation are continued. Second year, both semesters, twice a week. Credit, 2 hours each.

145, 146 *Women's Trio*. Training in, and performance of works for small vocal ensembles. An audition is required for admission. Each semester, twice a week. Credit, 1 hour each.

149, 150 *Mixed Chorus*. Open to qualified students. Training for performance of various styles of choral compositions from classical to modern. Meets Monday, Wednesday, and Friday. Men are required to attend an additional rehearsal on Tuesday for preparation of works for male voices; women will rehearse works for women's voices on Thursday. Students should retain membership throughout the year. Credit, 1 hour each.

151, 152 *Women's Glee Club*. Open to qualified women students. Apply to the director. Students should retain membership throughout the year in order to receive the benefit of public appearance in the mid winter and spring. Any year, four times a week unless otherwise arranged. Credit, 1 hour each.

155, 156 *Class Violin*. Open to beginners only. A study of the fundamentals of violin and viola, and their use in public school music. Daily individual practice is required. Either semester, twice a week. Credit, 1 hour each.

161, 162 *Class Instrumental Instruction*. Brass, reed, and percussion instruments. Students sufficiently proficient are admitted to the college band or orchestra. A fee of \$2.50 per semester is charged for instruments furnished by the college. Each semester, twice a week. Credit, 1 hour each.

165, 166 *College Orchestra*. The major objective is the study of symphonic musical literature. The orchestra participates in college assembly programs and provides incidental music for major productions of the drama department. Membership is selective. Twice a week, either semester. Credit, 1 hour each.

171, 172 *Violin Private Instruction*. First year. Either semester, one lesson a week. Credit, 1 hour each.

173, 174 *Violin Private Instruction*. Second year. Either semester, one lesson a week. Credit, 1 hour each.

181, 182 *Violoncello Private Instruction*. The study of cello technique and of works by representative classical and modern composers, graded according to the needs of the student. Either semester, one lesson a week. Credit, 1 hour each.

183, 184 *Violoncello Private Instruction*. A study of more advanced cello technique and of representative works from cello literature. Opportunity is provided for public performance and full orchestra and ensemble playing. Either semester, one lesson a week. Credit, 1 hour each.

187, 188 *Band and Orchestra Instruments Private Instruction*. Students with or without previous training may elect this course.

191, 192 *String Quartet*. Ensemble experience for advanced players. Membership, selective. Either semester, once a week. Credit, 1 hour each.

197, 198 *Trombone Quartet*. Ensemble experience for advanced players. Admission by audition only. Either semester, once a week. Credit, 1 hour each.

201 *Harmony III*. A continuation of Music 104. Material covered includes further study and use of chords, altered chords, modulation, form and analysis, and creative writing in various forms. Prerequisite: Mus. 104 or equivalent. Third year, first semester, twice a week. Credit, 2 hours.

202, 203 *Literature and History of Music*. A general survey of music from its pre-Grecian sources down to the twentieth century with emphasis on style and form. Periods covered include the Grecian, Gregorian, Gothic, Discant, Renaissance, the growth of Opera, of instrumental music, and charting of the general trends from Bach through Schonberg. Prerequisite: Mus. 109. Fourth year, both semesters, twice a week. Credit, 2 hours each.

205 *Choral Conducting*. Study of all the elements of choral technique and interpretation. Required of all music majors unless registered for Music 207. Third year, first semester, three times a week. Credit, 2 hours.

206 *Accompanying*. Includes accompaniment of vocal and instrumental solos and of group and choral singing. Either semester. Credit, 1 hour.

207 *Instrumentation and Conducting*. For all majors, required. Third year, second semester, twice a week. Credit, 2 hours.

211 *Music Education Primary and Intermediate Grades*. Problems in supervising and teaching music in the modern elementary school. Prerequisites: Mus. 100, 102 or their equivalent. Third year, first semester, three times a week. Credit, 3 hours.

212 *Music Education Junior and Senior High School*. The study of problems, materials, and rehearsal techniques. Emphasizes the relationship of the music department to the whole school program. Prerequisites: Mus. 100, 102, 211. Third year, second semester, three times a week. Credit, 3 hours.

233, 234 *Piano Private Instruction*. Third year. Participation in formal public recitals required. Third year, either semester. Credit, 1 or 2 hours each.

235, 236 *Piano Private Instruction*. Fourth year. Participation in formal public recitals required. Either semester. Credit, 1 or 2 hours each.

237, 238 *Voice Private Instruction*. Third year. Participation in formal public recitals required. Either semester, two lessons a week. Credit, 2 hours each.

239, 240 *Voice—Private Instruction*. Participation in formal public recitals required. Fourth year, either semester, two lessons a week. Credit, 2 hours each.

250 *Music in the Kindergarten and Primary Grades*. Considers materials, problems, and the place of music in the modern primary school. Opportunity is provided for observation and directed teaching. Prerequisites: Mus. 141, 142. Third year, twice a week. Credit, 2 hours.

251 *Music Education in the Elementary School*. For those preparing to be teachers in grades one through eight. Considers materials, problems, and the place of music in the classroom. Prerequisites: Mus. 141, 142. Second semester, two hours a week. Credit, 2 hours.

271, 272 *Violin Private Instruction*. Third year. Participation in formal public recitals required. Either semester. Credit, 2 hours each.

273, 274 *Violin Private Instruction*. Fourth year. Participation in formal public recitals required. Either semester. Credit, 2 hours each.

284g *Counterpoint*. The Polyphonic vocal style of the sixteenth century. Prerequisite: Mus. 201. Second semester, twice a week. Credit, 2 hours.

288g *Composition*. Analysis and practical application of harmony to the smaller formal designs and methods of structural treatment in musical composition. Prerequisite: Mus. 201. Second semester, twice a week. Credit, 2 hours.

292g *Form and analysis*. The intimate study of various musical forms with emphasis on the development and application of the sonata to the symphony and chamber music. Prerequisite: Mus. 201, or equivalent. First semester, twice a week. Credit, 2 hours.

# Department of Health and Physical Education

LAVIK (Head of Department), MURPHY (Director of Women),  
Kinzle, Kajakawa, Doherty, Quinn, Gillanders, Klann, Plock

The purposes of this department are: (a) to provide an interesting and beneficial extra-curricular activity program for each student, (b) to provide interesting and beneficial activity courses to meet core curriculum requirements, (c) to serve teachers interested in teaching health and physical education, (d) to provide experience in coaching and supervision of intramural and interscholastic athletic events, (e) to serve students registered under the Arts and Sciences curriculum and not interested in teaching but interested in certain technical or related fields.

Students are excused from the required activity courses only when a written permit is received signed by the college physician. In such cases restricted physical education classes are prescribed instead of the regular activity classes. For certain activity classes uniforms are required. These may be obtained at the College Book Store. Opportunity is afforded for all men to take part in intramural and intercollegiate athletics. Intercollegiate athletics are governed by the rules of the Border Faculty Athletic Conference. The intramural sports and dance programs for women are sponsored by the Women's Athletic Association. They provide opportunity for all to participate in some form of physical activity.

## Teacher-Education Curriculums

### Kindergarten Primary and Elementary Curriculums.

*For Students Not Taking a Major.* In addition to the 6 semester hours required of all students, it is suggested that women wishing preparation to handle a limited program of health and physical education in their schools may elect some of the following courses: P.E. 167, 185, 223, 224, 225, 226, 228, 230. For the same purpose men may elect courses from the following: P.E. 167, 217, 218, 230, 240.

*For Students Taking a Major.* All students taking a major in this department will take the following: Biol. 171, 172; P.E. 109, 131 a,b,c,d, 167, 236g or 245, 251. In addition women take the following courses making a total of 35 hours excluding the core requirements:

P.E. 161, 181, 223, 224, 226, 228, 229. Men take the following additional courses: P.E. 217, 218, and 5 hours chosen from P.E. 230, 240, 254g, a total of 30 semester hours. The special certificate is granted to students who complete not less than 30 semester hours or the equivalent in physical education courses.

### The Secondary Curriculum.

*For Students Planning to Teach in Secondary Schools.* Students desiring to teach Health and Physical Education as one of their subjects in secondary schools should register under the secondary curriculum with a major in Health and Physical Education. Both men and women desiring a major in health and physical education will take the following courses: Biol. 171, 172; P.E. 109, 131a,b,c,d, 167, 236g or 245, 251. Women take the following additional courses: P.E. 161, 181, 185 or 228, 224, 225, 227, 232, a total of 34 or 35 hours excluding the core curriculum requirements. Men take the following additional courses: P.E. 217, 218, and 5 hours selected from P.E. 230, 240, 254g, a total of 3 semester hours excluding the core curriculum requirements.

Women students desiring a minor only should select the following courses: P.E. 109, 131a,b, or c,d, 161, 181, 185 or 228, 223, 224 or 225, 226 or 227, 232. Men should select the following: P.E. 109, 131a,b,c,d, 167, 217, 218, 251.

## Arts and Sciences Curriculums

The area of concentration in Physical Education is designed to serve the following types of students: (a) Those who do not immediately intend to teach but have a special interest in technical aspects, such as occupational and physical therapy; (b) those who plan to enter the field of school health, or public health; (c) those who wish to enter the field of community recreation.

*Degree.* Completion of the Arts and Sciences Curriculum with an area of concentration in health and physical education leads to the degree of Bachelor of Science.

### Generalization Requirements.

All students seeking the B.S. degree must meet the generalization requirement of 40 semester hours listed under Arts and Sciences curriculums found on page 70 of the catalog.

### Areas of Concentration.

The area of concentration consists of 39 semester hours as outlined below.



*Prerequisite Courses.* The following are prerequisites: Biol. 171, 172.

*Required Courses for Both Men and Women.* The following 12 hours are required: P.E. 109, 131a,b,c,d, 167, 251.

*Required for Women Only.* The following are required: P.E. 161, 185, 211, 235, 255g.

*Required for Men Only.* The following are required: P.E. 217, 218, 230, 236g, 240.

*Optional Groups of Courses.* In addition to the 23 required hours listed above, each student in this area will select one of the four following groups of courses and complete 16 semester hours in it.

(1) *Emphasis on Physical Education:* P.E. 211, 235, 236g, 253g, 254g, 255g; Biol. 140; Chem. 111, 112, 180; Psych. 214, 231, 240; Ed. 120, 216.

(2) *Emphasis on Health Education.* P.E. 185, 225, 236g, 240, 254g, 255g; Biol. 183, 204g; H.Ec. 101, 104, 212; Psych. 231, 234; Ed. 120, 216.

(3) *Emphasis on Recreation.* P.E. 161, 211, 230, 232, 253g; Art 115, 120, 220; I.A. 122; Psych. 231, 234, 240; Ed. 120, 216.

(4) *Emphasis on the Therapies.* Phys. 111, 112; Biol. 183, 204g, 225; Art 106, 115, 120, 220; I.A. 163, 222; Psych. 208, 214, 225g, 240g; Ed. 120, 216, 254g.

## Description of Courses In Health and Physical Education

100 *Hygiene.* Required of all students. Separate sections for men and women. Twice a week. Credit, 2 hours.

101 *Basic Physical Education.* Volleyball, basketball, folkdancing, and tennis. Required of all freshmen women not majoring in physical education. Fee \$2.00. Twice a week. First semester. Credit, ½ hour.

102 *Basic Physical Education.* Softball, modern dance, and archery. Required of all freshmen women not majoring in physical education. Fee \$2.00. Second semester, twice a week. Credit, ½ hour.

103, 104 *Athletics.* Advanced work in touch football, basketball, volleyball, softball, and track. Four times a week. Credit, ½ hour each.

105a,b,c,d *Restricted Activities.* Limited types of games and sports activities for students who cannot, because of physical disabilities, en-

roll in regular physical education activity class. Students may register only on written recommendation of the school physician. Twice a week, both semesters. Credit, 2 hour each.

P. E. 107, 108 *Sports Survey*. Instruction in individual and team sports. Required of all men in the freshman year. Participation in varsity or freshman athletics may not be substituted. Twice a week. Credit, ½ hour each.

109 *Introduction to Physical Education*. An orientation and guidance course. Required of all freshmen majoring in physical education. Separate sections for men and women. Three times a week. Credit, 3 hours.

110 *Tap Dancing*. A class for beginners. Simple routines. Open to both men and women. Twice a week. Second semester. Credit ½ hour.

111, 112 *Athletics*. Open to men accepted as candidates for varsity or freshman teams representing the college. Five times a week. Credit, ½ hour each.

117. *Recreational Games*. Instruction of and playing experience in the following recreational game : badminton, table tennis, shuffle board, bowling, paddle tennis, deck tennis, and croquet. Both semesters. Twice a week. Credit, 2 hour.

120a,b *Golf*. The "a" class for beginners only. The "b" class for those who have had one semester of golf or previous playing experience. Both semesters. Twice a week. Credit, ½ hour each.

123, 124 *Tumbling*. Beginning and advanced sections for men. A separate beginning section for women. Twice a week. Credit, ½ hour each.

125, 126 *Boxing*. Twice a week. Credit, ½ hour each.

127, 128 *Wrestling*. Twice a week. Credit, ½ hour each.

130a,b *Tennis*. The "a" class, for beginners only. The "b" class for those having had one semester of tennis or previous playing experience. Both semesters. Twice a week. Credit, ½ hour each.

131a,b,c,d *Professional Activities*. The activities included are designated professional because of their value to students majoring in physical education. Separate sections for men and women. Four semesters required of all physical education majors. Both semesters, 4 times a week. Credit, 1 hour each.

140a,b *Archery*. The "a" class for beginners only. The "b" class for those having had one semester of archery or previous experience. Bows and arrows furnished. Twice a week, both semesters. Credit ½ hour each.

150 *Social Dancing*. The fundamentals of this type of dancing. Not more than one semester accepted for required physical education credit. Twice a week. Credit,  $\frac{1}{2}$  hour.

160 *Fencing*. A beginning class. Foils and protective head equipment furnished. Stress placed upon the fundamental attacks and parries. Fee, \$1.00. Second semester, twice a week. Credit,  $\frac{1}{2}$  hour.

161 *Dance In Education*. A study of the history and values of the various types of dances, fundamentals of dance composition, and analysis of rhythmic form. Theory and practice in the use of percussion instruments in teaching rhythmic activities. First semester, three times a week. Credit, 2 hours.

167 *First Aid*. Emphasizes the prevention, diagnosis, and treatment of the common accidents of daily life, techniques in teaching first aid. Upon satisfactory completion of the course, standard, advanced or instructorship certifications are recommended. Authorization may be granted to teach first aid any place in the United States. Second semester, 2 hours per week. Credit, 2 hours.

170 *Folk and Character Dance*. A study of European, cowboy, early American, and barn dances suitable for elementary grades and high schools. Either semester, twice a week. Credit,  $\frac{1}{2}$  hour.

172 *Fundamentals of Scouting*. The philosophy of scouting organization and practices. Actual practice in scoutcraft. Those completing the course receive Elements of Scoutmastership Certificates, Parts I and II. First semester, three times a week. Credit, 3 hours.

180a,b *Modern Dance*. The "a" class for beginners only. The "b" class for those who have had previous experience or work in modern dance. Both "a" and "b" classes open to men and women. Both semesters. Credit,  $\frac{1}{2}$  hour each.

181 *Dance Production*. An advanced course in modern dance composition and production. Practical experience in all types of dance production. Open to both men and women. Required of all women majoring in physical education. Prerequisite: P.E. 180a, or one semester of modern dance. Fee \$1.00. Both semesters, four hours a week. Credit, 1 hour.

185 *Principles of Health Education*. A study of the underlying principles, the aims, and objectives of school health education. A survey of available teaching materials. A study of official and non-official health agencies. First semester, three times a week. Credit, 3 hours.

186, 187 *Coaching*. Theory and technique of major and individual sports. Practical experience in game officiation. Required of all women majors. Twice a week. Credit, 2 hours each.

210 *Camp Fire Leadership*. Theory and practice of Camp Fire with special attention to practical programs. Successful completion of course leads to a certificate of training from National Camp Fire Headquarters, antecedent to later appointment as a Guardian. Fee, 75 cents. Second semester, once a week. Credit, 1 hour.

211 *Camp Counseling*. A course for those interested in camp counseling. Problems which confront a counselor will be studied plus a review of various activities offered in a camp program. Second semester, twice a week. Credit, 2 hours.

217, 218 *Coaching*. Theory and techniques of major sports. These include football, basketball, track and baseball. Required of all men who major in health and physical education. Twice a week. Credit, 2 hours each.

220 *Playground Leadership*. A study of the games suitable to the playground and other phases of the physical education program in the elementary school. Practical experience in organizing, promoting, and directing them. Should be taken before or with directed teaching. Required of all students seeking the elementary certificate. Four times a week. Credit, 2 hours.

223 *Directing Games of Low Organization*. Experience in class organization and methods of teaching games suitable for use, indoors and outdoors in the elementary grades. The Arizona State Course of Study in Health and Physical Education will be used as a guide for formulating the programs of game activities. Recommended to women wishing a special certificate. Open to both men and women. First semester, three times a week. Credit, 2 hours.

224 *Directing Major Team Sports*. Experience in class organization, teaching and coaching of volleyball, basketball, softball, and speedball for girls. Attention to the meaning and interpretation of rules of these sports. Required of all women majoring in physical education. Open to both men and women. Prerequisites for women: two hours, professional activities. First semester, three times a week. Credit, 2 hours.

225 *Directing Individual and Dual Sports*. Experience in class organization, teaching and coaching of tennis, archery, badminton, and golf. Attention to the meaning and interpretation of the rules for these sports. Required of all women majoring in physical education. Open to both men and women. Prerequisites for women: two hours, professional activities. Second semester, three times a week. Credit, 2 hours.

226 *Directing Dance in Elementary Schools*. Sources, materials and practice of all types of dance and rhythmic activities for the elementary school child. A study of creative rhythm. Recommended to

women wishing a special certificate. Prerequisite, P.E. 161. First semester, three times a week. Credit, 2 hours.

227 *Directing Dance in Secondary Schools.* Theory and practice of teaching dance activities suitable for use in secondary schools. Sources, material, and accompaniment. Required for all women majoring in physical education. Prerequisite, P.E. 161. Second semester, three times a week. Credit, 2 hours.

228 *Directing Health Education.* A study of the various methods used in the teaching of health education in the elementary and secondary schools, health and physical education tests and their functions. Interpretation and uses of these tests in classification and evaluation. Practice in giving different types of tests. Fee, 50 cents. Three times a week. Credit, 3 hours.

230 *Social Recreation.* Study in social recreational activities for the home, school and community and their leadership. Twice a week. Credit, 2 hours.

232 *Programs and Festivals.* Theory and practice of production of pageants, festivals, and dance programs of various types. Discussion of available materials and present national festivals. Open to both men and women. Prerequisite: P.E. 161. First semester, twice a week. Credit, 2 hours.

236g. *Organization and Administration of Health and Physical Education.* A study of the organization, administration, and supervision of the physical education program in elementary and high schools. Separate sections for men and women. Three times a week. Credit, 3 hours.

238g *Related Activities.* A consideration of activities relating to the physical education program for elementary and high schools. This will include play days, sports days, field days, assembly programs, Christmas and other special-day programs, archery meets, tennis tournaments, and track meets. Three times a week. Credit, 2 hours.

240 *Public Health Education.* A course in communicable diseases and health education. Two times a week. Credit, 2 hours.

245 *Tests and Measurements in Health and Physical Education.* A survey of types of methods considered will be applied to the material in the State Course of Study. First semester, two times a week. Credit, 2 hours.

251 *Applied Anatomy and Kinesiology.* Origins, insertions, and actions of muscles with emphasis on postural problems. Prerequisites: Biol. 171, 172. Three times a week. Credit, 3 hours.

253g *Methods of Officiating.* Emphasis given to the art of officiating, to the qualifications for, and the characteristics of successful offi-

cial and the meaning, intent, and interpretation of volleyball, basketball, softball, speedball, archery, and tennis rules and regulations. An attempt will be made to get a national or local official's rating in these sports for those who desire. Prerequisites: P.E. 224, 225. Three times a week. Credit, 2 hours.

254g *Physiology of Exercise*. The effects of exercise upon bodily functions. Required of all majors. Prerequisites: Biol. 171, 172. Three times a week. Credit, 3 hours.

255g *Corrective Physical Education*. A study of health examinations, of postural deviations and of problems representative of those who cannot participate in any active physical education program because of physical reasons. Open to both men and women. Prerequisites: P.E. 251; Biol. 171, 172. Twice a week. Credit, 2 hours.

256 *Advanced Scouting*. Principles of scout and cub leadership, and special organization courses. Leadership certificates awarded on completing course. Prerequisite: P. E. 172 or equivalent. Second semester, three times a week. Credit, 3 hours.

281g *Advanced Dance Composition*. Theory and practice in dance composition. Analysis of form in music as related to dance compositions. Study of archaic, pre classic, and modern style. Open to both men and women. Prerequisites: P.E. 181, 161; Art 215 or Mus. 202. Three times a week. Credit, 2 hours.

282g *Percussion and Improvisation*. Theory and practice in the use of percussion instruments. Improvisations of simple dance studies. Compositions of percussion accompaniment for modern dance studies. Open to both men and women. Prerequisites: P.E. 161, 181; Art 215 or Mus. 202. Three times a week. Credit, 2 hours.

335 *Problems in Health and Physical Education*. Covers recognition, discussion, and proposed solutions of controversial issues and problems in physical education, such as grading, excuses from class, budget, shower and locker room organization, G. A. A. point systems, noon hour and after school program, etc. Open to both men and women. Prerequisites: P.E. 161, 236g or 245, 251. Three times a week. Credit, 2 hours.

340 *Curriculum Construction in Health and Physical Education*. Principles involved in curriculum making; the necessity of comprehensive curriculum and the formulation of a progressively graded program; an appraisal of the theories and practices in curriculum making; presentation of functional philosophy of curriculum making and application of this theory. Prerequisites: P.E. 109, 161, 236g; Ed. 230. Twice a week. Credit, 2 hours.

# Department of Psychology

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SKINNER (Head of Department), GURNEE, GRIMES

The first aim of the work of the department is to give the college students an understanding of the psychological principles that will enable them to make a satisfactory adjustment to the problems of everyday living. A second important aim is to apply these principles to the problems of the schoolroom so that children may make a better adjustment to their problems. A third aim is to give the background necessary to those who plan to do special work in the field of psychology.

## Teacher-Education Curriculums

*For Those Not Majoring in Psychology.* In addition to the psychology courses required in these curriculums, students may profitably elect such courses as: Psych. 208, 214, 220g, 225g, 231g, 234, and 240g.

*For Those Majoring in Psychology.* The major consists of 24 semester hours of work selected to meet the needs and interests of the individual student. The minor consists of a minimum of 15 semester hours.

## Arts and Sciences Curriculums

There is no area of concentration in psychology alone, but there is an area designated as Human Growth and Adjustment. This includes courses from the Departments of Psychology, Education, Biology, Commerce, Speech, and Social Studies.

*Degree.* The completion of this curriculum leads to the degree of Bachelor of Science.

### Generalization Requirements.

Forty semester hours are required as outlined on page 70 of the catalog.

### Area of Concentration in Human Growth and Adjustment.

In addition to the 40 semester hours in the Generalization Requirements, the following 50 semester hours are required:

*Prerequisites.* The following 10 semester hours: Ed. 120; Psych. 100; G. S. 110.

*Required Courses.* The following 12 hours are required: Psych. 200; 208; 225; 213 or 234.

*Optional Courses.* A minimum of 12 semester hours in Psychology plus 16 semester hours is to be selected from 3 or more other departments. Psych. 211, 213, 214, 220, 224, 226, 231, 234, 235, 240, 241, 280, 291; Biol. 171, 172, 204; Ed. 216, 232, 250, 265, 266; Soc. 205, 212, 215; H. Ec. 209; Speech 220, 257, 258; Com. 219, 265; P. S. 203; Philos. 200.

## Description of Courses

Psych. 100 *Elementary Psychology.* A study of such activities as emotions, motives, thinking, observing, learning, and intelligence. The purpose of the course is mainly twofold: to acquaint the student with psychological facts which are known to be an important condition of vocational and social adjustment, and to supply a foundation for work in advanced psychology and in education. Credit, 3 hours.

200 *Educational Measurements.* The meaning of measurement and its place in psychology and education; types of educational and psychological tests and their functions; selection, interpretation and use of tests in guidance, classroom situations, supervision and administration; practice in giving standardized tests and interpreting results. Prerequisite: Psych. 100. Fee, 50 cents. Either semester. Credit, 3 hours.

Philos. 200 *Introduction to Philosophy.* A survey course introducing the student to fundamental issues and terminology in philosophy. The development of philosophical thought from the early Greeks to modern times with emphasis upon the place and significance of philosophy in the world of today. Not open to freshmen. Prerequisite: Psych. 100. Both semesters. Credit, 3 hours.

208 *Mental Hygiene and Abnormal Psychology.* Considers the psychological and environmental factors essential to the building of good mental health. Stresses the origin, development, prevention, and treatment of behavior problems in children and adults. Attention is given to mental deficiency and prevalent types of insanity. Prerequisite: Psych. 100. Credit, 3 hours.

211g *Statistical Methods.* Stresses the interpretation and application of statistics as employed in education and psychology instead of mathematical theory. Topics include the assembling and analysis of data, the computation, interpretation, and use of measures of central tendency, variability, reliability, and simple correlation. Prerequisite: Psych. 100. Credit, 3 hours.

213 *Educational Psychology.* An analysis and application of psychological facts and laws which are particularly relevant to the problems of education. Some topics are: transfer of training; the devel-



opment of comprehension, perception, and various mental abilities; conditions of emotional and social adjustment and their effect on behavior in the classroom; varieties and principle of learning; guidance in learning and problem-solving. Prerequisite: Psych. 100. Credit, 3 hours.

214 *Applied Psychology*. Application of psychological principles in business, industry, medicine, law and personnel. Considers social and vocational problems, factors making for personal efficiency. Vocational and personality tests. Prerequisite: Psych. 100. Credit, 3 hours.

220g *Individual Mental Testing*. For students who wish to do individual testing while in teaching or other service. A study of the Stanford Binet and other scales, and of performance tests. Students practice giving these tests until proficiency is reached both in administration and interpretation. Prerequisites: Psych. 100, 200. Fee, \$1.00. Credit, 3 hours.

224g *Clinical Psychology*. Survey of clinical work on diagnosis and adjustment of problem children. Intelligence, performance, and achievement tests are analyzed and demonstrated. Educational and other adjustment problems are diagnosed and remedial measures are suggested. Individual testing. Prerequisites: Psych. 100, 200. Fee, \$1.00. Credit, 2 hours.

225g *Social Psychology*. A study of the behavior of man in his social relations. Problems of crowd behavior, social control, propaganda, suggestion, imitation, competition, cooperation, and leadership are among those considered. Aims to develop an understanding of psychological forces at work in community, state, and nation. Prerequisite: at least two courses in Psychology. Credit, 3 hours.

226g *Behavior Problems and Juvenile Delinquency*. A review of investigations on behavior problems and delinquency; consideration of psychological and other factors contributing to delinquency prevention and correction of behavior problems and delinquency; case studies. Prerequisite: 2 courses in Psychology. Credit, 2 hours.

231g *Psychology of Adolescence*. A presentation of facts on growth and development; physical, mental, moral and social traits of adolescence; the prediction and control of behavior; and their bearing upon the problems of instruction in junior and senior high schools. Prerequisite: Psych. 100. Credit, 2 hours.

234 *Child Psychology*. A study of physical, mental, emotional, and social development of the child from birth to adolescence. The period from five to ten years is especially emphasized. Designed to

meet the needs of those planning to teach in the kindergarten, primary, or intermediate grades. Prerequisite: Psych. 100. Credit, 3 hours.

235g *Individual Differences*. The nature and the extent of psychological differences, among both individuals and groups, and the significance of these differences for curriculums and educational methods. Prerequisites: Psych. 100, 200, 213. Credit, 2 hours.

240g *Psychology of Personality*. The elements of personality, and the conditions which determine the pattern and the direction of its growth; an analysis of temperament, disposition, and other traits; characteristics of arrested, regressive, and mature personalities; methods of judging personality and character. Prerequisite: at least two courses in psychology. Credit, 2 hours.

241g *Psychology Problems and Research*. Considers psychological subjects which are not adequately covered in the introductory course, such as: Psychological methods of research, results of important investigations, physiological psychology, and schools of psychology. Each student will carry out some research work. Not offered in 1947-1948. Credit, 3 hours.

245g *Psychology of Religion*. A scientific approach to problems and experiences in the field of religion. Deals with methods and techniques for gathering and evaluating data. Activity will be directed toward making constructive evaluations of social experiences acquired in community life. Prerequisites: at least two courses in psychology. Not offered in 1947-1948. Credit, 3 hours.

280g, 281g *Psychological Clinic*. Laboratory practice in psychological testing; diagnosis, intelligence, personality, interest and vocational aptitude testing and advisement; conferences. Prerequisite: Psych. 220g or 224g. Either or both semesters. Credit, 2 hours each.

308 *Advanced Educational Psychology*. A critical review of the more important scientific publications on the facts, laws, and theories of learning, with particular reference to those problems of education to which such contributions apply. Prerequisites: at least two courses in psychology. Credit, 3 hours.

313 *Recent Studies in Educational Psychology*. A critical survey of some of the latest experimental reports, particularly the reports which are most relevant to current problems of teaching, administration, and supervision. Prerequisites: at least two courses in psychology. Credit, 2 hours.

322 *Psychology and Education of Exceptional Children*. Presents the psychological principles most essential for the understanding and

education of exceptional children. Considers the education and training of children suffering from common forms of defect, and the education of gifted children. Prerequisite: Psych. 100. 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.

335 *Aptitudes and Aptitude Tests*. A study of the theory of aptitudes, types of aptitude tests, and the use of aptitude tests, their selection, administration, and interpretation in the guidance program. Credit, 3 hours.

## Department of Sciences

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BATEMAN (Head of Department), STAHNKE, MORTENSEN, GRAF,  
MILLER, KRUMBOLTZ, LARAMORE, MCCLEARY, THORPE

The department of sciences offers courses in the following fields: Biology, Chemistry, Geography, General Science, Geology and Physics. This work is designed to meet the needs of the following: (a) students desiring a cultural or broadening training in the field of science, (b) prospective elementary and secondary teachers who plan to major or minor in one of the divisions of science, (c) prospective teachers who require prerequisite training in science for majors, such as Home Economics or Physical Education, (d) pre professional or other students requiring lower division science courses to meet the requirements of the various professional, academic and vocational fields such as Agriculture Conservation, Medicine and Research, and who plan to continue their work at another college.

### Teacher-Education Curriculums

#### Kindergarten Primary and Elementary Curriculum.

*For Students Not Taking a Major or Minor.* In addition to G.S. 100, 110, and Geog. 100 required of all students, it is suggested that G.S. 231, and courses in Geography will be especially helpful to grade teachers.

*For Students Taking a Major or Minor in Science.* Students majoring in science are required to complete the following: G.S. 100, 110, 231; Geog. 100; Biol. 172. Additional courses to complete a minimum of 24 semester hours for the major may be selected from the following: Biol. 130, 140, 204; Chem. 101, 180; Geog. 101, 203, 205, 210, 217, 222. A minor in science consists of at least 15 semester hours and may be selected from any of the courses listed above under the requirements for the major.

### The Secondary Curriculum.

Students planning to teach science in the secondary schools should take basic courses in mathematics, chemistry, physics and biology. Over specialization is to be avoided, since the prospective teacher may find it necessary to instruct in one or all of the above fields. To complete a secondary science major, twenty-four hours or more exclusive of the core curriculum requirements in general science, mathematics, and geography, must be completed from the following sequences: First year, Chem. 101-102, or 111-112, or Biol. 130-140; 2nd and 3rd year, Chem. 101-102, or 111-112, or Biol. 130-140, Math. 106 or 107, 118, Chem. 131, 142, Biol. 163, 172, Geol. 151, Phys. 111-112; 4th and 5th year, Chem. 180 or 211g, 212g, 280g, Biol. 183, 204, 213g, 222, 224g, 248g, Phys. 201, 202, 211g, 216g.

The minor consists of 15 semester hours. The work will be chosen in conference with the department head and the instructor from any one of the following fields: biology, chemistry, geography, physics, general science.

## Arts and Sciences Curriculums

The department of science offers the opportunity for students to take an area of concentration either in the biological sciences or the physical sciences.

*Degrees.* Students completing the requirements of an Arts and Sciences curriculum with an area of concentration in either of the two fields of science may receive either the degree of Bachelor of Arts or Bachelor of Science depending upon the selection of courses to meet the generalization requirements.

### Generalization Requirements.

In addition to the 40 or 48 semester hours of generalization requirements outlined on page 70 of the catalog, the student must complete one of the areas of concentration as outlined below.

### Areas of Concentration.

*Biological Science Area.* This area of concentration affords basic

training for positions in conservation, entomology, forestry, biological survey, national park service, rodent control, and biological research. A total of 42 semester hours of required and elective courses must be taken to meet the requirements in this area.

**Prerequisite Courses.** The following courses are prerequisites for this area of concentration: Chem. 101, 102 or 111, 112. In some cases it is desirable for the student to take Phys. 111, 112. At least one year of foreign language is highly recommended.

**Required Courses.** Eighteen semester hours are required as follows: Biol. 130, 140, 183, 204, 222.

**Optional Courses.** The student may select a minimum of 24 hours according to his interest from one of the three groups listed below, or he may select his 24 hours from the combined groups.

(a) **Emphasis on Botany.** Biol. 133, 134, 213, 216, 228; Ag. 124, 125, 143; Chem. 180, 280.

(b) **Emphasis on Zoology.** Biol. 163, 171, 172, 221, 224, 234, 238; Chem. 180, 280.

(c) **Emphasis on Conservation.** Biol. 210, 213, 221, 224, 228, 235, Ag. 143, 144, 216, 219, 230, 246, Geol. 151, Geog. 100, 101, 217.

*Physical Sciences Area.* Joint areas of concentration are becoming increasingly important because they afford basic training which is essential to many of the professions and research. By selection of certain optional courses listed below, the student may complete the basic requirements for the training of persons planning to enter the various fields of chemistry, geography, or the physical sciences. A total of 48 hours is required in optional and required courses combined.

**Prerequisite Courses.** Students wishing to emphasize chemistry and the general physical sciences are strongly advised to complete part or all of the following courses: Biol. 130, 140; Math. 106 or 107, 118, 120, 122, 123. As early as possible a reading knowledge of French, German, or Russian should be developed. It is strongly recommended that students emphasizing geography take Geog. 100, G.S. 110, and one year of foreign language.

**Required Courses.** Twenty semester hours are required as follows: Chem. 101-102, or 111-112, Phys. 111-112, Geol. 151.

**Optional Groups of Courses.** Each student will elect a minimum of 28 hours according to his interests from one of the three groups as outlined below.

(a) **Emphasis on Chemistry.** Chem. 131, 142, 211, 212, 251, 252, 270, 280, Biol. 183.

(b) **Emphasis on General Physical Science.** Chem. 131, 142, 270, 251, 252, Phys. 116, 118, 201, 202, 211, 215, 241, Geol. 252, Geog. 217, 222.

(c) Emphasis on Geography. Geog. 101, 120, 210, 212, 215, 217, 222, 203, 204, 205, Phys. 116, 118, Geol. 252.

## Professional and Preprofessional Courses

Other curriculums of interest to the students concentrating in the sciences are listed in the section of the catalog on pre-professional and professional curriculums. These programs include the following: pre-agriculture, pre-dental, pre-dietetics, pre-engineering, pre forestry, pre-veterinary, and pre medical. Curriculums leading to the Bachelor of Science degree are also offered in medical technology and nursing.

## Technical and Semi-Professional Curriculums

A number of courses are offered in this department both elective and required designed to meet the needs of students registered under technical and semi-professional curriculums. These programs are outlined in another part of the catalog.

## Description of Courses

### General Science

G. S. 100 *Introduction to the Physical Sciences.* A richly demonstrated treatment of the fundamental facts of the physical sciences found in the fields of physics, chemistry, meteorology, geology, and astronomy. The scientific method of approach to problem solving and the applications of the physical sciences to daily life are stressed. This course does not meet the science requirements in preprofessional curriculums, such as medicine, agriculture, and dentistry. Fee, \$1.00. Either semester, four lecture discussions per week. Credit, 4 hours.

110 *Introduction to Biological Sciences.* A richly demonstrated treatment of the fundamental concepts that govern the activities of living things from the standpoint of origin of life, structure, and functions of both plant and animal life, genetics, geographic distribution, ecology and behaviorism. Emphasis on conservation and improvement of life. Does not meet the science requirement in pre-professional curriculums, such as medicine, agriculture and dentistry. Fee, \$1.00. First year, either semester, four lectures a week. Credit, 4 hours.

121 *Elementary Photography.* Light and its behavior, lenses, camera construction and performance, exposures, developing, printing, enlargement, making of lantern slides, copying, intensification,

composition. For the amateur, or the teacher who wishes to make use of photography as an aid to his teaching. Prerequisite: Chem. 102 or 112. Fee, \$3.50. First semester, two lectures and three hours of laboratory a week. Credit, 3 hours.

231 *Science For The Elementary School*. A combination "content-methods" course emphasizing the development of an integrated science program in each grade from the kindergarten through the junior high school. Lectures, library reports, class discussions, field observations, and camping trips. Prerequisites: G. S. 100, 110, or equivalent. Fee, \$1.00. First semester, three lecture-discussion periods a week. Credit, 3 hours.

## Geography

Geog. 100 *Elements of Geography*. An introduction to the elements of geography, such as climate, relief of the land, drainage, soils, plant and animal life; their inter-relationship and influence upon man and his activities. To provide the student with background and a technique for the teaching of geography. Fee, 50 cents. Either semester, three times a week. Credit, 3 hours.

101 *Economic Geography*. A study of the production, distribution and consumption of the various types of commodities related to agriculture, herding, lumbering, mining, fishing, manufacturing, and other leading activities of man. Special emphasis upon international trade and the trade routes of the world. Prerequisite: Geog. 100. Fee, 50 cents. Three times a week. Credit, 3 hours.

120 *Map Interpretation*. An introductory course to the reading of topographic maps of the United States. Emphasis is placed on the construction and profiles; the interpretation of graphic and fractional scales; and cultural, relief, and water symbols. Correlations made to determine their influences upon man's activities. Prerequisite: Geog. 100 or Geol. 151. Fee, \$1.00. Twice a week. Credit, 2 hours.

203 *Geography of Europe*. A study of the natural regions of Europe, their climates, relief features, drainage, soils, plants, and animals, as well as their influence upon man's activities. Prerequisite: Geog. 100. Fee, \$1.00. Three times a week. Credit, 3 hours.

204 *Geography of North America*. A study of the physiographic provinces of the continent with their respective climates, products, and major activities of man. Prerequisite: Geog. 100 or 101. Fee, \$1.00. Three times a week. Credit, 3 hours.

205 *Geography of South America*. A regional study of a continent. An analysis of the various physiographic regions, their climates,

products, and human activities. Prerequisites: Geog. 100, 101, or 204. Fee, \$1.00. Three times a week. Credit, 3 hours.

206g *Geography of Arizona*. A study of the physical features of the landscape, their origin and distribution throughout the state. Emphasis upon the climate, soils, minerals, drainage, plant and animal life, and their influence upon man's activities. Prerequisite: Geog. 100 or Geol. 151. Fee, \$1.00. Twice a week. Credit, 2 hours.

210g *Geography Of Trade and Transportation*. A geographical analysis of the world's trade routes by land, sea and air, with emphasis upon the world's leading railway routes, steamship lanes, inland waterways, auto highways, and modern air routes to leading trade centers of the world. Prerequisite: Geog. 100. Fee, \$1.00. Three times a week. Credit, 3 hours.

212g *Regional Geography*. A study of geographic regions of the world delimited on a climatic or physical basis. The evolution or modification of cultures and economies under the influence of natural environment will be stressed. Selected regions of the world will be studied. Prerequisite: Geog. 100. Credit, 3 hours.

215g *Geography of Asia*. Physical and cultural landscapes of the continent. All of the U.S.S.R. will be considered in the light of present day political and economic developments. Aims to supply the geographical background for the interpretation of present events. Prerequisite: Geog. 100. Fee, \$1.00. Three times a week. Credit, 3 hours.

217g *Conservation Of Natural Resources*. A study of the distribution of the natural resources of the United States. Emphasis is placed upon the most efficient use and conservation of our resources, including a study of the problem of land reclamation, soil erosion, forest depletion, control of water supply for domestic and industrial uses, development of water power, flood control, improvement of mining methods, preservation of wild life, and establishment of recreational facilities. Fee, \$1.00. Three times a week. Credit, 3 hours.

222g *Physiography of the United States*. The analysis of the physiographic regions of the United States, with emphasis upon the various geological processes involved in their formation and their influences upon the major activities of man. Two recitation-lectures and one two-hour laboratory per week. Prerequisite: Geog. 100, or Geol. 151. Fee, \$1.00. Credit, 3 hours.

## Geology

Geol. 151 *Fundamentals of Geology*. A study of the processes that change the character of the earth's surface and its interior. Includes



a study of wind, weathering, rivers, waves, currents, underground waters, ice, and volcanism. A study of the earth's interior, character of its rocks, origin and deformation of its crust by internal forces. Laboratory work with rocks and minerals, topographic maps. Field trips. Three recitation lectures and two hours of laboratory per week, and minimum of eighteen hours of field work per semester. Fee, \$2.00. Credit, 4 hours.

252 *Historical Geology*. A study of the distribution, origin and chronological succession and development of earth rock formations and of organisms, as well as of contemporaneous events that marked the beginning or end of a geologic time period. Prerequisite: Geol. 151. Three recitation-lectures together with laboratory assignments. Fee, \$2.00. Credit, 3 hours.

### Biological Sciences

Biol. 130 *General College Botany*. A brief survey of the lower plant groups their morphology and ecological relationships. More detailed study of the flowering plants—their taxonomy, morphology, ecology, growth and propagation. The principles of genetics with particular application to plant improvement. Fee, \$2.00. Three lectures and three hours laboratory per week. Credit, 4 hours.

133 *Plant Anatomy*. The morphology of plant cells, tissues, and the tissue system. A study of prepared slides and fresh materials in the laboratory. Required for majors in biological science and in agriculture. Prerequisite: Biol. 130. Fee \$3.00. First semester, two hours lecture and six hours laboratory a week. Credit, 4 hours.

134 *Plant Physiology*. A study of the plant functions of absorption, food synthesis, nutrition, respiration, growth and reproduction, with special reference to agricultural practices. Prerequisites: Biol. 133, Chem. 102 or 112. Fee, \$3.00. Second semester, two lectures, six laboratory hours a week. Credit, 4 hours.

140 *General Zoology*. General principles of animal structure and function and comparative methods of reproduction. Systematic classification and a consideration of the geographical distribution in relation to the origin and development of animal life. Fee, \$4.00. Either semester, three lectures, three hours of laboratory a week. Credit, 4 hours.

150 *Special Techniques in Biology*. Individual projects in the skills of the biological sciences. Recommended for biological majors, those interested in research procedures, and those who are going to teach the biological sciences. Approval of the instructor is required. Fee, \$1.00 per credit hour. Credit arranged.

163 *Comparative Anatomy of Vertebrates.* A study of the structure, development, and homology of the organ systems of vertebrates. Laboratory dissection of the shark, frog, pigeon, and cat. Prerequisite: Biol. 140. Fee, \$5.00. Two lectures, two three hour laboratory periods a week. Credit, 4 hours.

171 *Human Anatomy-Physiology.* A study of the normal structure and function of the following systems of the human body: skeletal, articulatory, muscular, integumentary and nervous systems, as well as the organs of special sense. Partially fulfills the anatomy and or physiology requirements for physical education majors and pre nursing students. Prerequisites: Either high school biology or chemistry, or G. S. 110, or Biol. 140 and Chem. 101 or 111, or the equivalents are strongly recommended. Fee, \$2.00. Three lectures per week. Credit, 3 hours.

172 *Human Anatomy-Physiology.* A study of the normal structure and function of the following systems of the human body: circulatory, respiratory, digestive, excretory, endocrine, and reproductive systems. Partially or completely fulfills the anatomy and or physiology requirements for physical education and home economics majors, and for pre-nursing students. It is desirable to take Biol. 171 first; however, it is not required.

183 *General Bacteriology.* Emphasis upon the fundamental principles of bacteriology, and their hygienic, industrial and agricultural application. Organisms representing the principal groups are studied in cultural and microscopic preparations. Milk, soil, water and hygienic surveys are conducted by the students. Prerequisite: Biol. 110 or equivalent. Fee, \$5.00. First semester, two lectures and three two-hour laboratory periods per week. Credit, 4 hours.

204g *Genetics and Eugenics.* The principles of heredity and their application to social and educational problems. A continuation of the study of the biological principles underlying race betterment. Prerequisites: Biol. 130, 140 or equivalent. Three lectures a week. Credit, 3 hours.

204Ag *Laboratory Course In Genetics.* The study is based on fruit fly breeding and herediscope problems. Prerequisite: Biol. 204 or concurrent registration. Fee, \$1.00 per hour. Credit, 1 2 hours.

210 *Ornithology.* Structure, classification, field identification and economic relation of birds. Foundation for teaching, hobby, game management or museum work. Prerequisite: Biol. 140. Fee, \$3.00. Two lectures and three hours of laboratory a week. Credit, 3 hours.

213g *Plant Ecology.* Origin and development of vegetation, and measurements in the field of factors of the environment, with ap-

plications to agriculture, forestry, grazing, and general crop production. Prerequisite: Biol. 130. Fee, \$2.00. First semester, three lectures and one laboratory period a week. Credit, 4 hours.

Ag. 216g *Plant Breeding*. The principles and practice of plant breeding, techniques, and improvements by selection and hybridization. Prerequisite: Botany, Plant Industry, and Genetics. Fee, \$2.00. Second semester, three lectures a week. Credit, 3 hours.

Ag. 219g *Animal Breeding*. The principles of genetics are applied to the problems and techniques of animal breeding. Includes the study of pedigrees, line-breeding, inbreeding, out-cross, hybridization, and breeding indices. Prerequisites: Biol. 140, 204. First semester, three lectures a week. Credit, 3 hours.

221 *Poisonous Animals of Arizona*. A study of the animals of Arizona that are poisonous or are thought to be poisonous by the layman. Includes identification, nature of venom, structure of poison injecting apparatus, reaction of poison in animals and treatment for counteracting the effects of the venom injected in man. Lecture-demonstration. Alternates with Biol. 222. Prerequisite: G.S. 110 or equivalent. Fee, \$1.00. Second semester, two lectures and one four hour laboratory or field trip per week. Credit, 3 hours.

222 *General Entomology*. A study of insects including general structure, physiology, habits, life histories, and classification. Special emphasis will be given to the economic importance of insects. Laboratory work consists of field observations and in making and naming a personal collection of insects. Prerequisite: Biol. 140 or equivalent. Fee, \$3.00. Second semester, two lectures, and one four-hour laboratory or field trip per week. Credit, 3 hours.

224g *Animal Ecology*. A survey of the wild animals of North America stressing responses and adaptations, natural organization of animal communities, population equilibrium, succession, habitat, types, and methods of conservation. Prerequisite: Biol. 140. Second semester, three lectures and one laboratory period a week. Fee. \$3.00. Credit, 4 hours.

228 *Systematic Botany*. Classification and identification of the principal flowering plants. Special emphasis on economic and poisonous plants. Prerequisite: Biol. 130. Fee, \$4.00. First semester, two lectures and six hours of laboratory a week. Credit, 4 hours.

234 *Embryology*. Animal development, mainly of vertebrates, from the egg to the period of extra-uterine or extra-ovular existence. Includes principles and processes, germ cell origin and structure, maturation, fertilization, cleavage, cell layers, tissue and organ formation, foetal membranes, and their uses. Prerequisite: Biol. 140 or

equivalent. Fee, \$5.00. First semester. Three lectures, four hours of laboratory a week. Credit, 4 hours.

235g *Wildlife Management*. A study of the factors and principles involved in wildlife management, past and present methods and modern trends in management in this and other countries. Prerequisites: Biol. 130, 140. Three times a week and one three-hour field or recitation period a week. Credit, 3 hours.

248g *General Parasitology*. Advanced study of the morphology, biology, and control of pathogenic, protozoa, worms, and arthropod parasites of man and larval forms of animal life. Fee, \$4.00. Credit, 4 hours.

## Chemistry

A breakage deposit of \$2.50 is required in Chemistry 110, 111, 112, 180; and \$5.00 in Chemistry 131, 142, 211g, 212g, 280g, and 285g.

101, 102 *Introduction to College Chemistry*. A study of the common elements and their simple compounds. Designed to give the student training in the scientific method, and a knowledge of the fundamental laws and theories of chemistry. For students without credit in high school chemistry. Fee, \$4.00 a semester. Three lectures and three hours of laboratory a week. Credit, 4 hours each.

111, 112 *General College Chemistry*. Intensive treatment of the fundamental facts and principles of general chemistry. Qualitative analysis introduced during second semester. Prerequisite: high school chemistry. Fee, \$4.00 a semester. Three lectures and three hours of laboratory a week. Credit, 4 hours each.

131 *Qualitative Analysis*. A systematic separation of the most important metals and acids, together with a careful consideration of the theories, principles and laws involved. Prerequisite: Chem. 102 or 112, or equivalent. Fee, \$4.00. First semester, two lecture-recitations and six or more hours of laboratory a week. Credit, 4 hours.

142 *Elementary Quantitative Analysis*. Fundamentals of volumetric and gravimetric analysis. Includes practice in the standardization of acids, bases and oxidizers, and analysis of common substances. Careful manipulation of apparatus, integrity, and accuracy are stressed in the laboratory. Prerequisite: Chem. 131 or equivalent. Fee, \$5.00. Second semester, one lecture and nine or more hours of laboratory. Credit, 4 hours.

180 *Elementary Organic Chemistry*. A brief survey of the compounds of carbon, including the representative groups of the ali-

phatic and aromatic series. Adapted to the needs of students of home economics, agriculture and biology. Prerequisite: Chem. 101 or 111, or equivalent. Fee, \$4.00. Second semester, three lectures and three hours of laboratory a week. Credit, 4 hours.

211g, 212g *General Organic Chemistry*. An intensive treatment of the chemistry of organic compounds including the aliphatic and aromatic hydrocarbons and their derivatives. Theories and reactions of organic chemistry. The laboratory work includes the study and preparation of typical carbon compounds. Prerequisite: Chem. 112 or equivalent. Fee, \$5.00. Three lectures and three or more hours of laboratory each week. Credit, 4 hours each.

251g, 252g *General Physical Chemistry*. The laws and theories of physical chemistry. Includes study of gases, liquids, solids, solutions, chemical equilibrium, phase rule, electro chemistry, thermo dynamics, atomic structure, radioactivity, and colloids. Prerequisites: Chem. 142; Phys. 112; Math. 123. Fee, \$5.00 each semester. Three lectures and one three hour laboratory period a week. Credit, 4 hours each.

270g *Advanced Quantitative Analysis*. Special methods of analysis such as water, food, ore, rock, steel, urine. Prerequisite: Chem. 142. Fee, \$2.00 per credit hour. Time and credit to be arranged.

280g *Biochemistry*. A study of the chemistry of animal and plant life; the physical and chemical properties of compounds of biological origin; the chemistry of the tissues, secretions, excretions; the composition of foodstuffs, and phenomena of their digestion, absorption, and metabolism; and the role of enzymes in the plant and animal world. Prerequisites: Biol. 120, Chem. 180 or 211. Fee, \$4.00. First semester, three lectures and three hours of laboratory a week. Credit, 4 hours.

## Physics

Phys. 111, 112 *General College Physics*. A detailed lecture and laboratory treatment of general physics covering mechanics, heat, sound, light, electricity, and magnetism. Fee, \$3.00 per semester. Three lecture-recitations and three hours of laboratory a week. Credit 4 hours each.

116 *Descriptive Astronomy*. A non-mathematical treatment of general astronomy. Includes a detailed study of the members of the solar system and their characteristics, stars, constellation, nebulae, and the structure of the universe. Three lectures a week. Credit, 3 hours.

118 *Meteorology*. Composition and circulation of the atmosphere; hygrometry; weather, methods of observation and prediction; frost warnings; climate in its relations to transportation and agriculture. Fee, \$1.00. Three times a week. Credit, 3 hours.

121, 122 *Engineering Physics*. Study of mechanic-, heat, sound, light and magnetism. Prerequisite: parallel enrollment in calculus. Fee, \$5.00 each semester. Three lectures and three hours of laboratory a week. Credit, 4 hours each.

201 *Mechanics and Heat*. A more advanced presentation of mechanics and heat than is given in general physics. Calculus is used in the development of the subject matter. Prerequisites: Phys. 112. Calculus. First semester, three lectures a week. Credit, 3 hours.

202 *Electricity and Magnetism*. An advanced treatment of the theory of electricity and magnetism. Electrostatics, magnetism, direct and alternating current theory, electromagnetic waves, including radio. Prerequisites: Phys. 112 and Calculus. Second semester, three lectures a week. Credit, 3 hours.

215g *Electronics*. A study of conduction of gases, and vacuum tubes with emphasis on applications to communications. Prerequisites: Phys. 112; Math. 123. Three lectures a week. Credit, 3 hours.

241g *Modern Physics*. A survey of recent developments in physics including atomic structure, nature of radiant energy, x-rays, spectra, radioactivity and astrophysics. Prerequisites: Phys. 112; Math. 123. Three lectures a week. Credit, 3 hours.

## Medical Technology and Health

The following courses are offered at St. Joseph's Hospital in Phoenix and are restricted to seniors following the curriculum in Medical Technology and Health. Hours and fees for the following courses by arrangement with the instructor. The hospital fee is \$10.00 per month for twelve months.

Biol. 225 *Pathogenic Bacteriology*. Disease-producing bacteria studied by special stains, culturing and animal inoculation. Preparation of differential media for bacterial isolation and differentiation. First semester. Credit, 4 hours.

240 *Biological Laboratory Technique*. Routine laboratory procedures. Examinations of stained smears for morphological identification of bacteria, sputum examinations, routine blood counting, blood typing and matching, and urinalysis. First semester. Credit, 4 hours.

250 *Histology*. The study of the structure of tissues and organs and the preparation of stained sections for microscopic examination. Second semester. Credit, 4 hours.

265 *Serology*. Serological and immunological procedures. Special emphasis on complement fixation and precipitation tests for the diagnosis of syphilis. First semester. Credit, 2 hours.

271 *Parasitology*. Parasites of the intestines and blood in their relation to the problem of public health. The recognition of ova, the life cycle of parasites and their mode of transmission. First semester. Credit, 2 hours.

273 *Hematology*. Study of normal and abnormal blood cells. Alteration of the formed elements of the blood are considered in their relationship to different pathological processes. First semester. Credit, 4 hours.

Chem. 282a *Biochemistry*. The chemistry of animal life, the chemical properties of biological compounds, digestion, secretions and body metabolism. Normal values of blood and urine chemical compounds are stressed. Second semester. Credit, 4 hours.

284 *Blood Chemistry*. Examination of the blood for pathological compounds in the blood, abnormal changes in its chemical constituents, and examination for abnormal chemical substances in the blood. Second semester. Credit, 4 hours.

286 *Chemical Examination of the Urine*. Changes in chemical composition of the urine. Abnormal values of the usual constituents are studied in their relationship to disease. Second semester. Credit, 2 hours.

288 *Chemistry of Digestion*. Chemical examinations of the gastric contents, duodenal contents, bile, and feces are made, and the relationship of the findings to abnormal absorption and secretion is studied. Second semester. Credit, 2 hours.

# Department of Social Studies

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WYLLYS (Head of Department), TILDEN, VAN PETTEN, KRENKEL

Courses in the Social Studies are designed to make the student's college education well-rounded, and to produce intelligent, broad-minded and tolerant graduates of this institution. Not all students are preparing to enter the same profession, but nearly all expect to be citizens of the United States. In order to be able citizens, it is desirable to have some knowledge of human and cultural backgrounds and relationships, gained through an acquaintance with history, sociology, political science, or other Social Studies.

## Teacher-Education Curriculums

### The Kindergarten Primary and Elementary Curriculum.

*For Students not Taking a Major or Minor in the Social Studies.* In addition to the courses required in the Teacher-Education Curriculums, Hist. 110, 120, and P. S. 200, the following courses are recommended: S. S. 101; Hist. 103, 104, 109, 111; P. S. 102.

*For Students Taking a Major or Minor.* Students not planning to teach in secondary schools may take a major of 24 semester hours in the Social Studies as follows: S. S. 100; Hist. 101, 102, 103, 104, 111, 202g; P. S. 102. The minor consists of 15 semester hours selected by the student with the consent of his adviser.

### The Secondary Curriculum.

*For Students Planning to Teach in High Schools.* Three majors are given as outlined below.

**The Social Studies Major.** This major is planned for prospective teachers who may have to teach various phases of the Social Studies. In addition to Hist. 110, 120, and P. S. 200, the student will take 18 semester hours in lower division courses chosen from the following: S. S. 100; Hist. 101-102, 103-104, 109, 111, P. S. 102, 104, and 12 hours in upper division courses chosen from the following: Hist. 202, 203, 204, 206, 208, P. S. 201, 204, 205.

**The History Major.** Eighteen semester hours of lower division work taken in the first two years are required as follows: S. S. 100; Hist. 101, 102, or 103, 104, and nine hours chosen from the following: Hist. 105, 106, 107, 109, 111, 112, 113, 114, 115, 116; P. S. 101, 102, 103, 104. Twelve semester hours of upper division work should be



chosen from the following: Hist. 202, 203, 204, 205, 206, 207, 208, 210; S. S. 212.

The Political Science Major. Eighteen hours of lower division work should be selected including Hist. 101 and 102, or 103 and 104, or Econ. 131 and 132, or S. S. 100, and the remaining 12 or 13 hours may consist of P. S. 101, 102, 103, 104; Hist. 109. The 12 hours of required upper division work may be P. S. 201, 203, 204, 205, 206.

Minors. A minor in Social Studies, History, or Political Science consists of a minimum of 15 semester hours in addition to (for teacher certification), P. S. 200. Nine hours should be in lower, and 6 hours in upper division courses selected from those listed above, or equivalent work to fit the interests and background of the student.

*Suggested Sequences of Courses.* First year: Hist. 110; Ed. 120; Hist. 101, 102, 105, 106, 107, 108, 109, 111, 112, 113 or 115, 114 or 116; P. S. 101, 102, 103, 104; S. S. 100. Second year: 1st semester, Hist. 120 or Econ. 131, Hist. 101, 103, 105, 107, 109, 111, 113, or 115; P. S. 101, 103; S. S. 100; 2d semester, Hist. 120 or Econ. 132; Hist. 102, 104, 106, 108, 112, 114 or 116; P. S. 102 or 104; S. S. 100. Third year: 1st semester, Hist. 203, 205, 207, 210; P. S. 201, 203, 205; 2d semester, Hist. 202, 204, 206, 208, 210; P. S. 204 or 206. Fourth year: 1st semester, Hist. 203, 205, 207, 210; P. S. 200, 201, 203 or 205; 2d semester, Hist. 202, 204, 206, 208, 210; P. S. 200, 204, or 206.

## Arts and Sciences Curriculums

*Degree.* Students completing satisfactorily an Arts and Sciences curriculum with an area of concentration in the Social Studies receive the degree of Bachelor of Arts.

### The Generalization Requirements.

In addition to the 48 semester hours of generalization requirements listed on page 70 of the catalog, an area of concentration of 39 semester hours must be completed as outlined below.

### Areas of Concentration.

*Required Courses.* Each student will select 12 semester hours from the following lower division courses: S. S. 100, Hist. 101, 103, 109; P. S. 101, 102; Geog. 103, and 12 hours from the following upper division courses: Hist. 202, 204, 206, 208; P. S. 201, 206.

*Optional Groups of Courses.* Each student choosing this area of concentration will select one of the following three fields of emphasis and complete a minimum of 15 hours in it.

(1) Emphasis on History. Select 9 hours from the following lower division courses: Hist. 105, 106, 107, 108, 111, 112, 113, 114, 115, 116; Econ. 131; Geog. 100; and 6 hours from the following upper division courses: Hist. 203, 205, 207, 210.

(2) Emphasis on Political Science. Select 9 hours from the following: P. S. 103, 104; Hist. 105, 106, 109; Econ. 131; Geog. 100. Select 6 hours from the following: P. S. 203, 204, 205, 206; Geog. 203, 204, 217.

(3) Emphasis on General Social Studies: Select 9 hours from the following: P. S. 103, 104; Econ. 131, 132; Geog. 100. Select 6 hours from the following: P. S. 203, 204; Econ. 219, 225, 262; Geog. 217; Ed. 216, 265; Psych. 214, 225.

## Description of Courses

### General Social Studies

S. S. 100 *Introduction to the Social Studies*. General approach to the subject of Social Studies. Includes introductory material on History, Economics, Sociology, Anthropology, Political Science. First semester, five times a week. Credit, 5 hours.

212 *Teaching the Social Studies*. Deals with the methods of teaching history, civics, and other branches of social science. Conducted on the semi project method, with observation and reports. Open to seniors and graduate students only. Given, if demand is sufficient. Prerequisites: Hist. 101, 102, 103, 104, S. S. 100. Second semester, twice a week. Credit, 2 hours.

### History

Hist. 101 *Survey of Western Civilization, I*. Origins of western civilization and its development through medieval times. First semester, three times a week. Credit, 3 hours.

102 *Survey of Western Civilization, II*. Continuation of Hist. 101 through Renaissance and modern times. Second semester, three times a week. Credit, 3 hours.

103 *United States Through the Civil War*. American history from 1783 through Civil War times. First semester, three times a week. Credit, 3 hours.

104 *United States Since Civil War*. Continuation of Hist. 103 to the present period. Emphasis on economic and cultural growth. Second semester, three times a week. 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 the end of the Tudor period. First semester. Credit, 3 hours.

106 *History of England Since 1603*. A survey of the political, economic and social development of England and the British Empire from 1603 to the present. Second semester, three times a week. Credit, 3 hours.

107. *Ancient Orient and Greece*. General survey of western ancient history through the Hellenistic period. First semester, three times a week. Not offered, 1947-1948. Credit, 3 hours.

108 *History of Rome*. Covers the Roman period of history from the origins of Rome to the downfall of the Roman Empire. Not offered, 1947-1948. Second semester, three times a week. Credit, 3 hours.

109 *Economic History of the United States*. A survey of the economic development of the American people from 1783 to the present. Prerequisites: Hist. 103, 104, or equivalent. Upper division students only. First semester. Credit, 3 hours.

110 *The Growth Of American Institutions*. This course is introductory to the subject of American History and is designed to satisfy one-half of the social studies requirements. Each semester, three hours a week. Credit, 3 hours.

111 *The Southwest to 1865*. General survey of southwestern history before Civil War times. First semester, three times a week. Credit, 3 hours. Not offered, 1947-1948.

112 *The Southwest Since 1865*. Deals with the development of southwestern states, people and economic life since Civil War days. Second semester, three times a week. Credit, 3 hours. Not offered, 1947-1948.

113 *Medieval Europe*. Covering the development of European peoples from the fall of Rome to the Renaissance. First semester, three times a week. Credit, 3 hours.

114 *Colonization of North America*. General treatment of the colonial era of American history, both Spanish and English, with some consideration of French and other colonial peoples to 1783. Second semester, three times a week. Credit, 3 hours.

115 *Colonial Hispanic America*. The period of exploration, conquest and colony development among Latin American peoples to 1830. First semester, three times a week. Credit, 3 hours.

116. *Independent Hispanic America*. Covers the nationalistic growth of the peoples of Latin America since the winning of independence. Second semester, three times a week. Credit, 3 hours.

120 *Introduction To World History.* A general approach to the history of civilizations. Designed to satisfy one-half of the social studies requirements. Each semester. Credit, 3 hours.

202g *The Far East.* A study of the early as well as the modern history of China, Central Asia, Japan, Malaysia and India. Prerequisites: Hist. 101, 102, or equivalent. Upper division students only. Second semester, twice a week. Credit, 2 hours.

203g *American Foreign Relations.* Deals with the machinery of American diplomacy and the development of American foreign policy. Prerequisites: Hist. 103, 104, or equivalent. Upper division and graduate students only. First semester, twice a week. Credit, 2 hours.

204g *American Frontier.* The territorial expansion and settlement of the American people since colonial times. Prerequisites: History 103, 104, or equivalent. Upper division and graduate students only. Second semester, twice a week. Credit, 2 hours.

205g *French Revolution and Napoleon.* Covers the period of world revolution and imperialist wars, 1763-1815. Prerequisites: History 101, 102, or equivalent. Upper division and graduate students only. First semester, twice a week. Credit, 2 hours.

206g *Contemporary Europe.* European history since the First World War. Prerequisites: History 101, 102, or equivalent. Upper division students and graduates only. First semester, twice a week. 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 for students electing this course. Prerequisites: History 103, 104, or equivalent. Upper division and graduate students only. First semester, twice a week. Credit, 2 hours. Not offered in 1947-1948.

208g *American Cultural History.* The development of American ideas, ideals, literary expressions and social standards. Prerequisites: History 103, 104, or equivalent. Upper division and graduate students only. First semester, twice a week. Credit, 2 hours.

210g *Renaissance and Reformation.* Deals with the antecedents and development of the Renaissance in Italy, its spread into the rest of Europe, and the resultant revolution in religious and political thought. Open to upper division students only. Prerequisites: Hist. 101, 102, or equivalent. Credit, 2 hours.

300 *Seminar in History.* Assignments and reports in individual research work, covering any field of history. Offered if demand is sufficient. Hours to be arranged. Credit, 2 hours.

301 *Contemporary United States*. Studies in American political, social and economic history since 1900. The problem or project approach may be used in the conduct of this course, if desirable. Offered if demand is sufficient. First semester, hours to be arranged. Credit, 3 hours.

302 *Historiography and Historical Philosophy*. Studies in historical method and in the literature and theories of history. Offered if demand is sufficient. First semester, hours to be arranged. Credit, 2 hours.

### Political Science

P. S. 101 *Introduction to Political Science*. General principles of government, and theories of law and the state. Second semester, three times a week. Credit, 3 hours.

102 *State and Local Government*. The workings of the typical American State government, and its principles of administration, together with some consideration of county and local government. First semester, three times a week. Credit, 3 hours.

103 *Municipal Government*. Structure, methods and principles of American city governments and their administration. First semester, three times a week. Credit, 3 hours.

104 *American Political Parties*. A survey of the formation and history of the leading political parties, and the principles of famous party leaders. Second semester, three times a week. Credit, 3 hours. Not offered, 1947-1948.

200 *Constitutional Government*. This course meets the requirements of the Arizona State Law regarding teachers' qualifications, and is required of all students for certification. Fourth year, second semester, three times a week. Credit, 3 hours.

201g *Comparative National Governments*. This course deals with the background of present-day leading and typical governments throughout the world, with some consideration of the principles underlying each of them. Open to upper division and graduate students only. Prerequisite: P. S. 101. First semester, twice a week. Credit, 2 hours.

203g *Public Administration*. Practices and principles of government administration, chiefly in the United States. Prerequisites: P. S. 101, 102 or equivalent. Open only to juniors, seniors and graduates. First semester, twice a week. Credit, 2 hours. Not offered, 1947-1948.

204g *International Law and Relations.* The principles and practices of national governments under the laws and customs of war and peace. Open to upper division and graduate students only. Prerequisite: P. S. 101. Second semester, twice a week. Credit, 2 hours.

205g *World Politics in the Pacific Area.* Consideration of international problems of the Pacific Ocean area, and their background. Open only to juniors, seniors and graduates. Prerequisite: P. S. 101 or equivalent. First semester, twice a week. Credit, 2 hours. Not offered, 1947-1948.

206g *Contemporary Political Thought.* A critical survey of political ideas and philosophy from the French Revolution to the present. Prerequisite: P. S. 101. Open to upper division students only. Second semester, twice a week. Credit, 2 hours. Not offered, 1947-1948.

300 *Seminar In Political Science.* Offered if the demand is sufficient. Either semester, hours to be arranged. Credit, 2 hours.

# Statistics

## Summary of Registration, 1945-46

### COLLEGE

#### *Resident Students—Regular Session*

	Freshman	Sophomore	Junior	Senior	Graduate	Total
Men	450	117	77	54	52	750
Women	293	156	87	110	50	696
	<u>743</u>	<u>273</u>	<u>164</u>	<u>164</u>	<u>102</u>	<u>1446</u>

#### *Summer Session 1945*

Men .....	300
Women .....	135
<b>Total .....</b>	<b>435</b>

#### *Extension and Correspondence*

Men .....	107
Women .....	224
<b>Total .....</b>	<b>331</b>

#### *Total Registration in College*

Men .....	1157
Women .....	1055
<b>Total .....</b>	<b>2212</b>

#### *Counted More Than Once*

Men .....	78
Women .....	150
<b>Total .....</b>	<b>228</b>

#### *Net Enrollment—Different Students*

Men .....	1079
Women .....	827
<b>Total .....</b>	<b>1906</b>

### TRAINING SCHOOLS

Boys .....	411
Girls .....	473
<b>Total .....</b>	<b>884</b>
<b>GRAND TOTAL .....</b>	<b>2790</b>

## Summary of Graduates 1945-46

Through August, 1945 .....				6118
B. A. Degrees—	Men	Women	Total	
January, 1946 .....	5	13	18	
May, 1946 .....	16	50	66	
August, 1946 .....	14	27	41	
M. A. Degrees—				
May, 1946 .....	13	11	24	
Total .....				149
Through August, 1946 .....				<u>6267</u>

## Bachelor of Arts In Education

January 25, 1946

Helen Brown Brintlinger	Edna Mae Marx
Martha Frances Bunger	*LeRoy Meyer
Olive Virginia Chase	*Bonnie M. Patterson
Elizabeth Spencer Davis	Norma Sexton Richardson
Veda Bowyer Frank	*Bruce McKeen Ruppenthal
Helen Sandige Hinkle	Roscoe Agee Stanford
*Etta Jane Imboden	Howard F. Starnes
Mary Louise Jones	Bernard Anthony Vitek
Muriel Mary McGinty	Betty Lee Ward

## Bachelor of Arts In Education

May 22, 1946

Joan Allen	Edna Fern Graham
Barbara V. Aven	Charles Hanley
Jesus Antonio Balderrama	David Virgil Haws
Zada Lee Boles	Virginia Allen Hedgpeth
Harriett Bridges	Everett Bryan Helman
George Murray Carlson	Marie Robert Helmold
Marie Corrales	Julia Maye Hendrix
Ruth Edna Crumbaker	Harriet Anne Hill
Anna Barbara Crumpler	Ruth Patricia Hiscock
William Pascal Davis	Lucille Ruth Holdeman
Lucille Dean	Neva Deon Homrighausen
Calvin Jack Dellefield	Eloise James
Mae Genevieve Dobson	Dorothy Laverne Jernigan
Mary Agnes Echenique	Viola A. Johnson
Bessie Mae Eisenhart	Clarence Edward Lapp
June Dorothy Essig	Zada V. Lines
Patricia Ann Evans	Portia Andreas Locke
Walter W. Fisher	Jeanne A. McCauley
Richard Michael Fleming	Clarice Maloy
Stephen Hiram Flood, Jr.	Edna May Mathis
Harriet Freeberg	Charles Henry Merritt
Alma M. Giacoma	Antonio Montero



Maynard Cecil Montgomery	Grace Marie Smyers
Margy Leona Moore	Gloria Lee Stocks
Merdine Glenda Moton	Clyda Jean Saylor Swan
Elizabeth Jean Nye	Wilm. May Swan
Connie Kaneye Okazaki	Sallie Lou Tharp
Catherine Nancy Ostram	Alta May Thomas
Dorothy Ann Prior	Douglas Brown Udall
Antoinette Marie Rais	Hetty Faye McEuen Walker
Pauline Redd	Alfred Swift White, Jr.
Ed Gray Richeson	Betty Lou Williams
Della Marie Smith	June Zuroff

## Bachelor of Arts In Education

August 31, 1946

Norma Lee Allen	Winona Casner Kersh
Walter E. Andruss	Patricia Joyce Larson
Allene Faye Bishop	Malcolm Elwin Love
Maude Barnett Bliss	Honorato Manriquez
Arland Platt Branch	Robert H. Miller
Helen Jeanne Brannon	*Hetty Kathleen Morcomb
Zenobia Cannon	Lloyd M. Munsil
Frederick Paul Cochran	Edward Shumaker Olsson
Hazel Armina Davis	Heber Lavon Payne
Mary Snow DeLaney	*Luile Pearson
Leona Foushee	Helen Caldwell Peterson
Jack R. Giltner	Donald H. Pickett, Jr.
Mildred Myrtle Hall	Francis Bridgie Porter
Jacqueline Hamilton	Ann Elaine Rais
Lettie Lane Hershey	Vera June Roof
Allie Louella Hixson	George Palmer Sampson, Jr.
Fern Elizabeth Shill Howard	Martha Louise Spain
*Roy D. Hugh	Harriette Rolfs Stone
Cora Jenkin	Carrie Irene Stroud
Ruth Jessop	Edward Timothy Walsh
Rosa Ida Johnson	

## Master of Arts In Education

May 22, 1946

Guy Acuff	Elizabeth DeLouis Gordon
Miles Isaac Alldredge	Marlow F. Keith
Christian Marvin Andersen, Jr.	Sylvia N. Poling
Ward H. Bell	Lavor B. Reed
Frances Perry Cassity	Elizabeth Ann Rose
James Harry Coppinger	Thelma Irene Saylor
Mary Daou	Yun En T'an
Lance H. Dunham	*Donald Jose von Pohle
*Elizabeth Fisher	Lola May Wager
Marjorie Ellen French	Paul Dale Weary
*Jared Franklin Gerig	Minnie Seaver Wells
Mary J. Gomez	J. Harold Windes

\*Absentia

# Senior Honors

1946

## With High Distinction

Anna Barbara Crumpler  
Calvin Jack Dellefield  
Walter W. Fisher

David Virgil Haws  
Pauline Redd

## With Distinction

Joan Allen  
Martha Frances Bunger  
George Murray Carlson  
Lucille Dean  
Patricia Ann Evans  
Veda Bowyer Frank  
Mary Louise Jones  
Ruth Patricia Hiscock  
Lucille Ruth Holdeman

Dorothy Laverne Jernigan  
Clarence Edward Lapp  
Edna May Mathis  
Elizabeth Jean Nye  
Bonnie M. Patterson  
Grace Marie Smyers  
Gloria Lee Stocks  
Clyda Jean Saylor Swain  
Alfred Swift White

## Awards To Graduates

1945-1946

Alpha Psi Omega Award.....	Betty Lou Williams
Alumni Scholarship.....	Gloria Lee Stocks Clyda Jean Swain
Aristavets Awards.....	Calvin Jack Dellefield
Arizona Society of Public Accountants.....	Heber LaVon Payne
Beta Chi Award.....	Mary Louise Jones Wilma May Swan
Dunbar Award .....	Della Marie Smith
Gibbons Award .....	Joan Allen Clarence Edward Lapp
Harvard Club Award .....	George Palmer Sampson
Kappa Delta Pi Pin.....	Walter Fisher
Krause Science Award.....	Lucille Ruth Holdeman
Moeur Medal .....	Anna Barbara Crumpler
Moeur Pin .....	Mary Louise Jones
Mu Rho Alpha Award .....	Mae Genevieve Dobson
Physical Education Award .....	Zada Lee Boles
Pi Omega Pi Award.....	Joan Allen Gloria Lee Stocks
Psychology Club Award.....	Calvin Jack Dellefield
West Hall Award.....	Joan Allen

# Gifts and Bequests

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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. Endowments for special types of work are needed. Money is needed for the endowment of a Student Center building. The students, themselves, have already started a fund for this purpose. There are many other needs.

It is suggested that those desiring to make such a gift or bequest go to an attorney and make out a form such as is given below.

I give, devise, and bequeath to the Board of Regents of 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:.....  
.....  
.....  
.....  
.....

# For Information

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## CONCERNING

Catalogs  
General Information  
Admission  
Transcripts  
Evaluation of Records  
Instruction and Curriculum

} Write.....OFFICE OF REGISTRAR

Student Progress  
The Summer Session  
Extension Classes  
Correspondence Courses

} Write.....DEAN OF THE COLLEGE

Questions Involving Women Students  
Residence Halls and Apartments  
Employment of Students  
Deposits for Reservations

} Write... DIVISION OF  
STUDENT AFFAIRS

General Financial Matters      Write.....BUSINESS OFFICE

Teacher Placement              Write..THE PLACEMENT BUREAU

Educational Policies  
Administrative Questions

} Write.....THE PRESIDENT

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ARIZONA STATE COLLEGE AT TEMPE

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