

BULLETIN

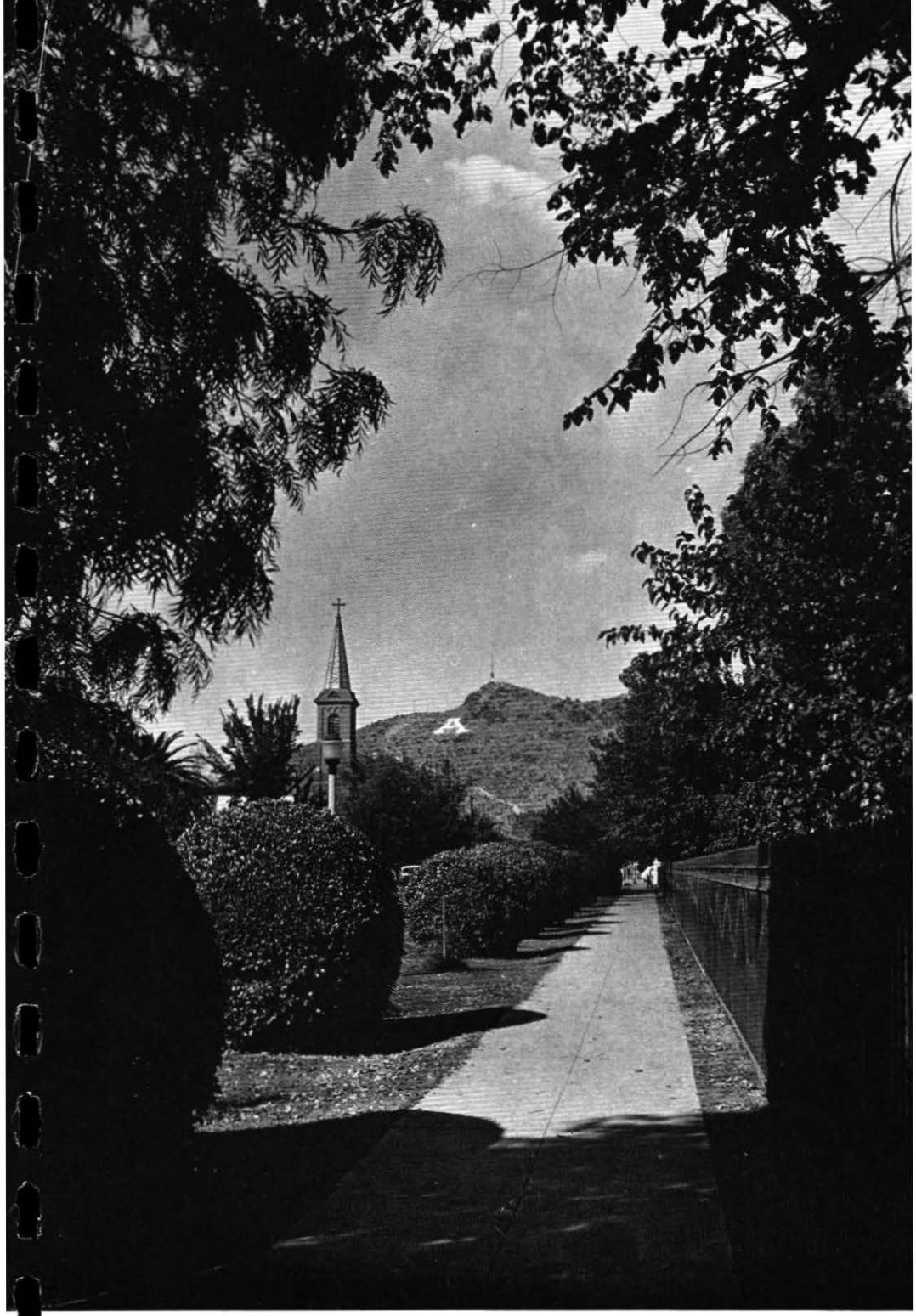
Arizona State
College TEMPE
ARIZONA

1949 - 1950 GENERAL CATALOG

GENERAL SERIES

JUNE, 1949

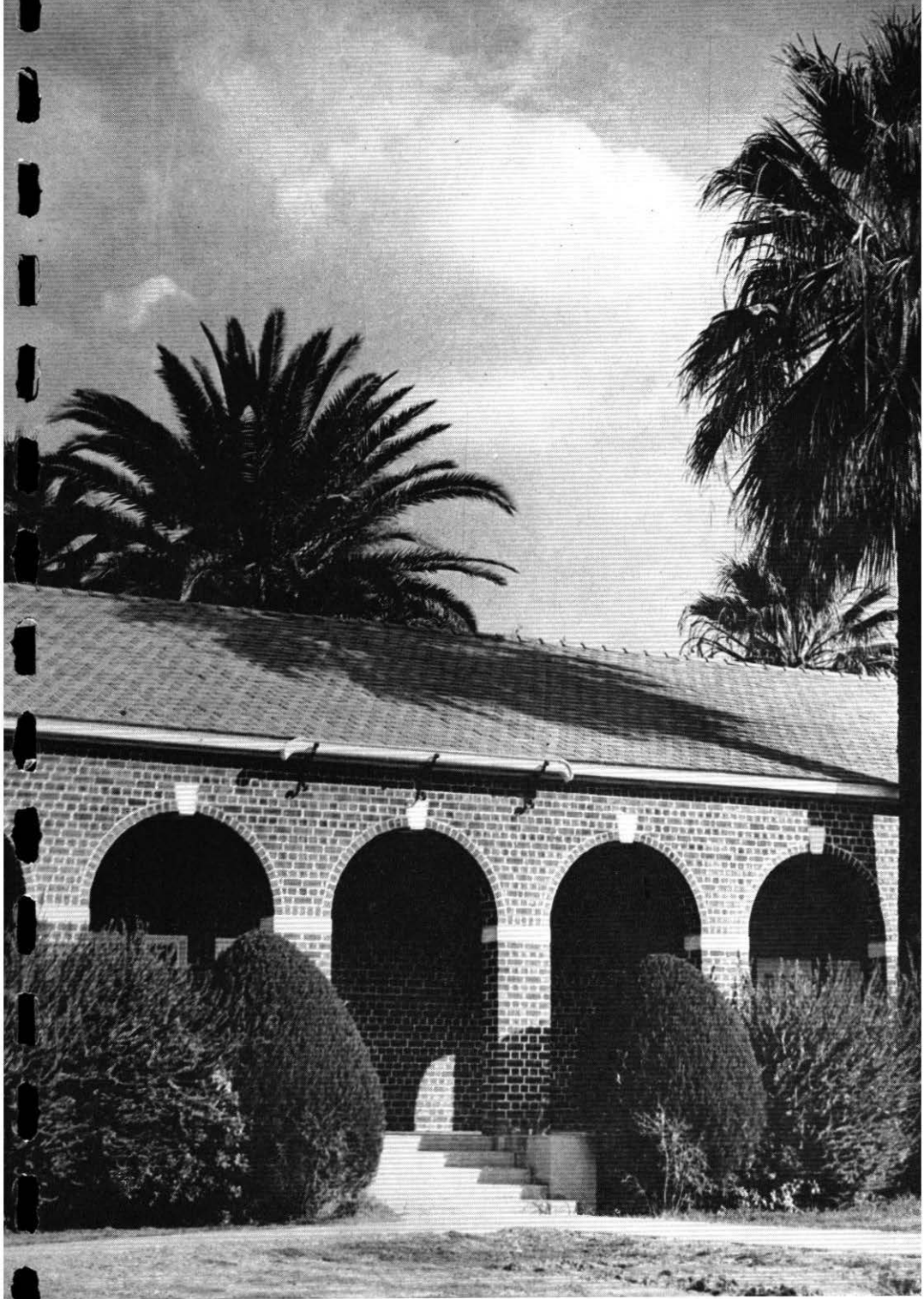
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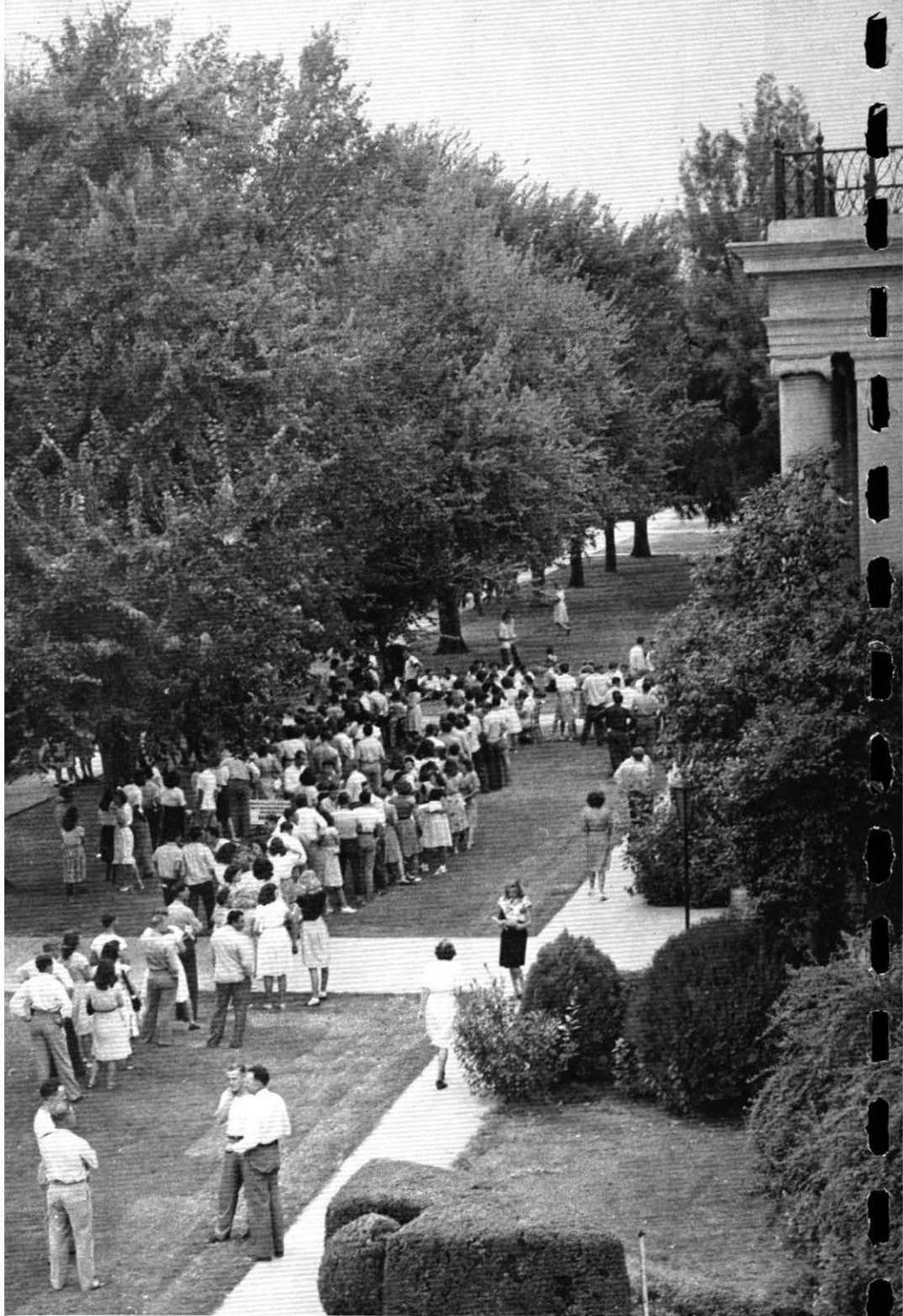
All eyes look on Tempe Butte as the landmark of ASC.



Newest on the Campus . . . the recently constructed Science Building.



Tropical verdure lends charm to the Ira D. Payne Training School.



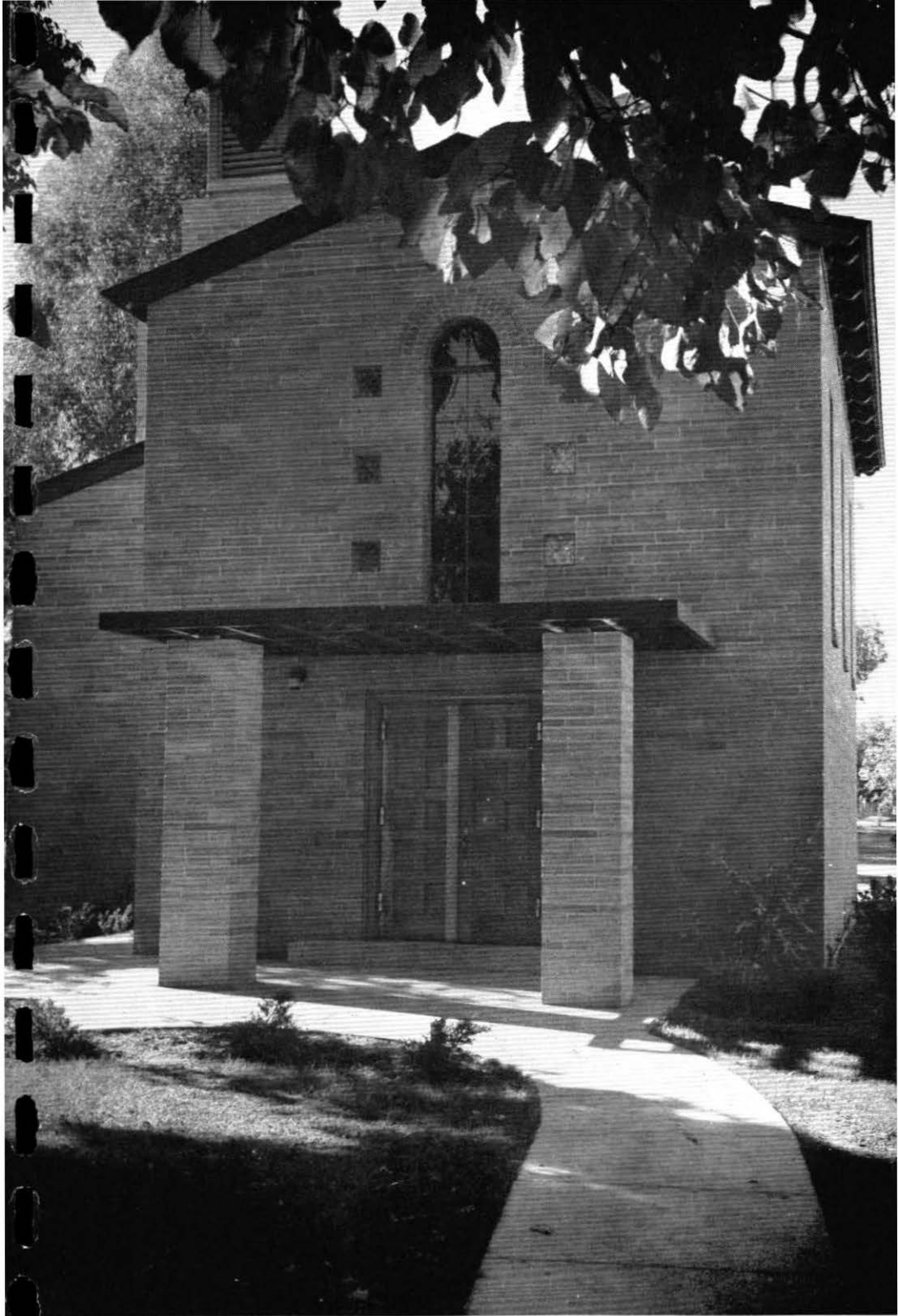
Expansive sweeps of lawn . . . tree studded . . . a backdrop for student affairs.



Gracious living is exemplified in college dormitory life.



Buildings designed for today set patterns for Campus expansions tomorrow.



Quiet meditation . . . Campus religious center is Danforth Memorial Chapel.



Instrumental and choral groups at ASC promote cultural enjoyment and growth.

BULLETIN OF
Arizona State College
TEMPE, ARIZONA



●
CATALOG ISSUE FOR THE YEAR 1949 50

PUBLISHED SIX TIMES A YEAR, AND ENTERED AS SECOND-CLASS
MATTER, NOVEMBER 30, 1931, AT THE POSTOFFICE AT TEMPE,
ARIZONA, UNDER THE ACT OF AUGUST 24, 1912

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GENERAL SERIES JUNE 1949 NUMBER 69

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College Calendar, 1949-1950

Fall Semester

Faculty Planning Conference	Sept. 8, 9, Thurs., Fri.
Residence Halls and Dining Hall Open	Sept. 10, Sat.
First Freshmen Assembly	Sept. 12, Mon. 8:30 A.M.
Freshman Week Events	Sept. 12, 13, 14, 15, 16, to noon
Advisement and Registration	Sept. 17
Registration Week	Sept. 13, 14, 15, 16, to noon
Beginning Advisement and Registration for Sophomores, Juniors, Seniors and Graduates.	Sept. 17
Completion of Registration and payment of Fees ... (All students)	Sept. 15, 16, to noon Sept. 17
Instruction Begins	Sept. 19, Mon.
Last Day of Registration for Credit	Oct. 1, Sat. noon
Deficient Scholarship Reports Due	Nov. 5, noon
Armistice Day—No Classes	Nov. 11, Fri.
Thanksgiving Recess	Nov. 23, Wed., 9:00 P.M. to Nov. 28, Mon. 8:00 A.M.
Christmas Vacation	Dec. 17, Sat. noon, to Jan. 2, Mon., 8:00 A.M.
Final Examinations	Jan. 20, 23, 24, 25, 26, Fri., Mon., Tues., Wed., Thurs.
First Semester Grade Reports Due	Jan. 27, Fri., 4:30 P.M.

Spring Semester

Residence Halls Open to New Students	Jan. 27, Fri.	
New Freshmen and Transfer Students	Jan. 27, 28, Get Registration Materials, Take Aptitude and Physical Examinations	Fri., Sat.
Registration	Jan. 31, Feb. 1, Tues., Wed.	
Instruction Begins, Second Semester	Feb. 2, Thurs.	
Last Day of Registration for Credit	Feb. 15, Wed.	
Deficient Scholarship Reports Due	Mar. 12, Sat. noon.	

Easter Vacation	April 6, Thurs., 9:00 P.M. to April 11, Tues. 8:00 A.M.
Senior Scholarship Reports Due	May 15, Mon. noon
Graduate Scholarship Reports Due	May 15, Mon. noon
Honors Assembly	May 19, Fri., 11:00 A.M.
Baccalaureate Service	May 21, Sun.
Commencement Exercises	May 23, Tues.
Final Examinations	May 22, 23, 24, 25, 26, Mon., Tues., Wed., Thurs., Fri.
Final Semester Grade Reports	May 29, Mon. noon

Summer Session

Summer Session Begins, Registration	June 5, Mon.
First Summer Term Ends	July 8, Sat.
Second Summer Term Begins, Registration	July 10, Mon.
Post Session Registration	July 15, Sat.
Second Summer Session Ends	August 12, Sat.
Post Session Begins	Aug. 14, Mon.
Post Session Ends	Sept. 2, Sat.

Board of Regents of The University and State Colleges of Arizona

Ex-Officio

DAN E. GARVEY.....Governor of Arizona
M. L. BROOKS, B.S., M.A. in Ed.....State Superintendent of
Public Instruction

Appointed

	TERM EXPIRES
W. R. ELLSWORTH.....	January, 1951
SAMUEL H. MORRIS, A.B., J.D.....	January, 1951
CLEON T. KNAPP, LL.B.....	January, 1953
JOHN M. SCOTT.....	January, 1953
LYNN M. LANEY, B.S., J.D.....	January, 1955
WALTER R. BIMSON.....	January, 1955
JOHN G. BABBITT, B.S.	January, 1957
MICHAEL B. HODGES.....	January, 1957

Officers of Administration

GRADY GAMMAGE, M.A., Ed.D. LL.D., President of the College
 HAROLD D. RICHARDSON, Ph.D. - - - Dean of the College
 J. O. GRIMES, M.A., Ph.D. - Director, Correspondence, Extension and Test Center
 IRA D. PAYNE, M.A. - - - - Director of Teacher Training
 GILBERT L. CADY, B.A. in Ed. - - Comptroller; Chairman, Division of Business Management
 *MILDRED B. SAYRE, Ph.M. - - Dean of Women; Chairman, Division of Student Affairs
 GEORGE C. YATES, M.S. Chairman, Division of Special Services
 H. W. BATCHELOR, M.S. - - - - - Librarian
 ALFRED THOMAS, Jr., B.A. in Ed., M.A. in Ed. - - Registrar
 Director of Admissions
 PAUL V. TROVILLO, B.A., M.A. - - - - - Dean of Men
 ROBERT F. MENKE, M.A. - - - - - Director of Placement

* On Leave

Officers of Instruction

- GAMMAGE, GRADY** - - - - - President of the College
B.A., M.A., LL.D., Arizona; Ed.D., New York
- ANDERSON, MARGERY M.** - - - - - Instructor in Education
B.A., Yankton; M.A., Chicago
- ANDERSON, WILLIAM F.** -Assistant Professor of Industrial Arts
B.S.C.E., B.S.E.E., Lafayette
- AUTENRIETH, BERTHA H.** - - - - - Instructor in Music
B.M., New England Conservatory; M.M., Michigan
- BAKER, EMILY V.** - - - - - Associate Professor of Education
B.A., Illinois State Normal; M.A., George Peabody; Ed.D., Columbia
- BALL, RACHEL STUTSMAN** - - Associate Professor of Psychology
A.B., Cornell; Ph.D., Chicago
- BARKLEY, BESS** - - - - - Associate Professor of Music
B.A., Arizona
- BATCHELOR, H. W.** - - - Associate Professor of Library Science
Head Librarian
B.A., Oregon; B.S., M.S., in L.S., Illinois
- BATEMAN, GEORGE M.** - Professor of Chemistry; Head, Science Dept.
B.S., Utah State Agricultural; M.S., Ph.D., Cornell
- BENEDICT, JOEL A.** - - - - - Assistant Professor of Education;
Director, Bureau Audio-Visual Aids and Curriculum Laboratory
B.A. in Ed., M.A. in Ed., Arizona State, Tempe
- BERGAMO, DOROTHY J.** - - - - - Instructor in Art
Ph.B., Chicago; B.F.A., Chicago Art Institute; M.A., Northwestern
- BOWERS, CHARLES O.** - - - Instructor of Woodwinds; Assistant
Band Director
B.S., Southeast Missouri S. T. C.; M.M., Eastman School of Music
- BRATCHER, AUSTIN S.** - - - Associate Professor of Marketing
B.A., Trinity; M.A., M.B.A., (Statistics), Texas; M.B.A. (Marketing),
Chicago
- *BUCKLEY, FRANK M.** - - - - - Instructor in English
B.A., Holy Cross; M.A., Boston
- BULLOCK, ARNOLD** - - - - - Associate Professor of Music
Mus.B., Yale; M.A. in Ed., Arizona State, Tempe
- BURKE, DONA BOYLE** - - - - - Assistant Professor of English
B.A., M.A., Michigan
- BURKHARD, SAMUEL** Professor of Education; Head, Department
B.A., Goshen; M.A., Columbia; Ph.D., New York
- BURTON, A. R.** - - - - - Professor of Business Administration
B.S., M.S., Kansas State T. C.; Ph.D., Nebraska; C.P.A., Arizona
- BYERS, FRANK R.** - - - - - Associate Professor of English
B.A., M.A., Cincinnati
- BYERS, NELLIE B.** - - - - - Assistant Professor of Education
B.A., Cincinnati; M.A., Ohio State

* On leave.

- BYRNE, LEE - - - - - Special Lecturer in Mathematics
A.B. in Ed., Illinois; M.A., Chicago; Ph.D., Pennsylvania; Ph.D. in Ed., Columbia.
- CAVALLIERE, WILLIAM A. - - Asst. Professor of Industrial Arts
B.A. in Ed., M.A. in Ed., Arizona State, Tempe
- CHRISTENSEN, JOHN E. - - - Instructor in Geography
B.A. in Ed., M.A. in Ed., Arizona State, Tempe
- CONLIN, DAVID A. - - - - - Instructor in English
A.B., Syracuse; Ph.D., Yale
- CRAWFORD, FRED - - - - - Associate Professor of Education
A.B., Santa Barbara State; M.S. in Ed., Ed.D., Southern California
- CURTIS, LT. COL. COY L. - Assistant Professor of Military Science
B.S., U. S. Military Academy
- DAVIES, MADOC W. - - - - - Assistant Professor of English
B.A. in Ed., M.A. in Ed., Arizona State, Tempe
- DAVIS, LT. COL. M.P. - - Assistant Professor of Military Science
B.S., West Point
- d'ORSSAUD, SUZANNE - Assistant Professor of Foreign Language
A.B., Earlham; M.A., Ph.D., Radcliffe
- DOHERTY, EDWARD A. - - - - - Head Football Coach
B.A., Boston
- DRESSKELL, MILES A. - - - - - Associate Professor of Music
A.B., San Jose State; B.M., Northwestern; M.A., Columbia
- DRESSKELL, NADINE - - - - - Instructor in Piano
B.S., Bowling Green State; M.A., Columbia
- DUNN, MAJ. LAMAR S. - Assistant Professor of Military Science
B.S., Alabama Polytechnic Institute
- ELLSWORTH, LOLA - - - - - Assistant Professor of Home Economics
B.S., Brigham Young; M.A., Columbia
- ENSIGN, MELVERNE COATS - - Asst. Professor of Industrial Arts
B.S., Southern California; M.A., Harvard
- ESCUDERO, MARY JULIETTE - Asst. Professor of Foreign Languages
A.B., San Diego State; M.A., Claremont; Ph.D., Cornell
- ESSIG, MARY - - - - - Instructor in Home Economics
B.S. in Ed., Missouri; M.E., Colorado A. & M.
- EVANS, JEANNE - - - - - Instructor in Physical Education
B.A. in Ed., Arizona State, Tempe; M.A., Colorado State College, Greeley
- FIELDING, HOWARD - - - - - Associate Professor of English
B.A., Mount Union; Ph.D., Wisconsin
- FRENCH, HELEN AIKEN - - - Assistant Professor of Education
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- FULLER, GERALD R. - - - - - Instructor in Agriculture
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B.A., M.A., Oklahoma; Ph.D., Illinois
- GESAS, JOYCE - - - - - Instructor in Physical Education
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- GILLANDERS, DOROTHY F. Asst. Professor of Physical Education
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Walter Reed Hospital
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9

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B.A. in Ed., Arizona State, Tempe; M.S., Oregon State
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Director, Correspondence, Extension and Test Center
B.S. in Ed., Ohio; M.A., Ph.D., Michigan
- GURNEE, HERBERT - - - Professor of Psychology
B.A., M.A., Wesleyan; Ph.D., Harvard
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B.S. in Ed., Kansas State, Emporia; M.S., Ph.D. Illinois
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B. Pub. Sch. Mus., M.Mus., Columbia School of Music
- HARGISS, GENEVIEVE - - - Associate Professor of Music
B.M.E., B.Mus., M.M.E., Kansas
- HARTER, TOM J. - - - Associate Professor of Art
B.A. in Ed., Arizona State, Tempe; M.F.A., Oregon
- HATCH, A. B., JR. - - - Assistant Professor of Languages
A.B., Princeton; M.A., Chicago; Ph.D., Yale
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B.S., Grove City; Ed.M., Pittsburgh
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B.S. in Bus. Ad., M.A., Southern California; LL.B., Notre Dame;
C.P.A., Arizona and California
- HOLFORD, AMBROSE D. - - - Assistant Professor of Music
B.M.E., B.Mus., M.Mus., Northwestern
- HOLLY, JOSEPH V. - - - Assistant Professor of Psychology
B.S. in Ed., M.S. in Ed., Ed.D., Kansas
- HOPKINS, ERNEST J. - - - Associate Professor of Journalism
B.A., Southern California
- JOY, MIRIAM - - - Instructor in Physical Education
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- KOHLER, FRANK E. - - - Special Lecturer in Accounting
C.P.A., Illinois
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- *PLOCK, EDNA L.** - - - Assistant Professor of Physical Education
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B.S., Oklahoma A. & M.; M.A., George Peabody; Ph.D., Louisiana
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B.S., Maryland S. T. C.; M.A., Columbia; Ph.D., Iowa
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B.S., Boston
- RANNELLS, JESSIE M.** - - - Professor of Home Economics
Head of the Department
B.S., Iowa State; M.S., Cornell; Ph.D., Wisconsin
- RICE, ROY C.** - - - Professor of Education
B.S., New Mexico; M.S., Massachusetts State; Ph.D., Texas
- RICHARDSON, HAROLD D.** - - - Professor of Education,
Dean of the College
Ph.B., Ph.M., Wisconsin; Ph.D., Northwestern
- RICKEL, HARRY** - - - Instructor in Piano
B.M., M.M., Arizona
- ROBINSON, DANIEL O.** - - - Assistant Professor of Agriculture
A.B., Brigham Young; M.S., Arizona
- ROSE, H. BARRY** - - - Assistant Professor of Psychology
B.P.E., Purdue; M.A., Ohio State
- SANDERSON, R. PHILLIPS** - - - Assistant Professor of Art
School of the Art Institute, Chicago; Kansas City Art Institute
- SARDIGA, J. BRYCE** - - - Assistant Professor in Business
Administration
B.S., Susquehanna; M.A., Hardin-Simmons
- *SAYRE, MILDRED B.** - - - Dean of Women; Chairman of the
Division of Student Affairs
B.S., Ph.M., Wisconsin

* On leave.

- SCHILLING, DOROTHY C.** - - - - - Professor of English
B.A., M.A., Ph.D., Stanford
- SHAW, EVERETT R.** - - - - - Assistant Professor of Economics
B.A., M.A., Michigan; C.P.A., State of Maryland
- SHEPPARD, GEORGE L.** - - - Assistant Professor in Business Administration
B.S., M.A., Brigham Young; B.C.S. Southeastern
- SHREIBER, ROBERT E.** - Assistant Professor of Audio-Visual Aids
B.S., Northwestern; M.S., Illinois
- SHRIGLEY, LT. ROBERT F.** - Assistant Professor of Military Science
- SKINNER, H. CLAY** - Professor of Psychology; Head of Department
B.S. in Ed., Ohio; M.A., Ohio State; Ph.D., New York
- SMITH, SYDNEY RUSSELL** - - Assistant Professor of Psychology
B.A., M.A., California
- SOUTHERN, CLARENCE EDWARD** - Associate Professor of English
B.A., Evansville; M.A., Stanford
- STAHNKE, HERBERT L.** - - - Professor of Zoology; Director,
Poisonous Animals Research Laboratory
B.A., La Grange; B.S., Chicago; M.A., Ph.D., Iowa State
- STECK, ELMA M.** - - - - - Instructor in Physical Education
B.S., Ohio State; M.A., California
- STEWART, KENNETH M.** - - - Associate Professor of Sociology
A.B., M.A., Ph.D., California
- THOMSON, RONALD G.** - Assistant Professor of Physical Education
B.S., Springfield; M.A. in Ed., Arizona State, Tempe
- TILDEN, ARNOLD** - - - - - Professor of Social Studies
B.A., M.A., DePauw; Ph.D., Southern California
- TURNER, F. BERNADETTE** - - Associate Professor of Sociology
B.S., Minnesota; M.A., Northwestern
- TURNER, KATHARINE C.** - - - Associate Professor of English
B.Ed., Illinois State Normal; M.A., Ph.D., Michigan
- VAN PETTEN, DONALD R.** - - - - - Professor of Social Studies
B.A. in Ed., Arizona State, Tempe; M.S., Southern California; Ph.D., Stanford
- WAGER, ALAN T.** - - - - - Professor of Physics
B.S., Hobart; M.A., Cornell; Ph.D., Chicago
- WEXLER, CHARLES** - Professor of Mathematics; Head of Department
B.S., M.S., Ph.D., Harvard
- WILLSON, LORETTA** - - - - - Instructor in English
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- WILSON, IRMA** - - - - - Professor of Foreign Languages
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- WYLLYS, RUFUS KAY** - - - - - Professor of Social Studies
Head of the Department
B.A., Hillsdale; M.A., Michigan; Ph.D., California; Litt.D., Hillsdale
- YATES, GEORGE C.** - - - - - Associate Professor of English
Chairman, Division of Special Services
B.J., M.S., Missouri

- YOUNG, GEORGE P. - - - Assistant Professor of Psychology
 B.A., Colorado State; M.A., Colorado; Ph.D., Yale
- ZACHER, ROBERT, V.- Assistant Professor of Business Administration
 B.S., M.S., Alabama
- ZIMMERMAN, J. E. - - - - - Associate Professor of English
 B.A., M.A., Baylor

Training School Staff

- COOL, DWIGHT W. - - - - - Principal
 B.A., Colorado; M.A., Colorado State
- BAUMGARTNER, BERNARD G. - - - - - Eighth Grade
 B.A. in Ed., M.A. in Ed., Arizona State, Tempe
- BENEDICT, FRANCES - - - - - Librarian, Training School and
 Curriculum Laboratory
 B.A., in Ed., Arizona State, Tempe
- BOWYER, IRENE - - - - - Fourth Grade
 B.A. in Ed., Arizona State, Tempe
- CASSITY, FRANCES PERRY - - - - - Kindergarten
 B.A. in Ed., M.A. in Ed., Arizona State, Tempe
- CHASE, VERA A. - - - - - Third Grade
 B.A., M.A., Southern California
- JAMES, ELIZABETH HAMPTON - - - - - Sixth Grade
 B.A., M.A. in Ed., Arizona State, Tempe
- KEEGAN, WILLIAM E. JR. - - - - - Industrial Arts
 B.A. in Ed., Arizona State, Tempe
- MORRIS, MARY SCOTT - - - - - Art
 A.B., Western Kentucky State; M.A., Northwestern
- ROBBINS, W. KATHERINE - - - - - First Grade
 B.A., Central Washington; M.A., Iowa
- ROBINSON, DOROTHY F. - - - - - Fifth Grade
 B.A., M.A., Southern California
- STITT, JAMES W. - - - - - Seventh Grade
 B.A. in Ed., M.A. in Ed., Arizona State, Tempe
- THOMAS, CATHERINE R. - - - - - Music
 B.A. in Ed., M.A. in Ed., Arizona State, Tempe
- LYND, LOUISE B. - - - - - Principal, Rural Training School
 B.S., Columbia
- McKEMY, H. M. - - - - - Superintendent of Grade Schools
 B.S., Arizona; M.S., Southern California

Matthews Library Staff

BATCHELOR, H. W.	Librarian
B.A., Oregon; B. S., M.S. in L.S., Illinois	
CORY, LUELLA	Second Reference Librarian
A.B., Kansas; B.L.S., Illinois	
KEMP, PATRICIA	Library Clerk
LARSEN, ROBERT G.	Library Clerk
B.S., Arizona State, Tempe	
LOWE, HELEN M.	Public Service Librarian
B.A., Flora Stone Mather; B.S. in L.S., Western Reserve	
OVERTON, ISABEL	Library Clerk
PHILLIPS, RUTH F.	Second Catalog Librarian
B.A., Cornell College; Library Science Certificate, Wisconsin	
SHAFFER, GLENN	First Catalog Librarian
B.A., Pennsylvania State; B.S. in L.S., Drexel	
WHITWELL, DORIS	First Reference Librarian
B.A., Baldwin-Wallace; B.S. in L.S., Western Reserve	

Assistants in Administration

ALVAREZ, JOSEPHINE	Assistant, Registrar's Office
ANDERSON, JOHN L.	Supervisor, Business Methods
ARNHOLD, KATHRYN, B. A.	Film Librarian
ASHLEY, ALETHA	Secretary, Dean of College
BAAS, BARBARA	Secretary, Comptroller
BAUMGARTNER, LUELLA M.	Stenographer, Registrar's Office
BELTZ, V. V.	Chief, Veterans Billing; Liaison, Vocational School
BLALOCK, WALTER S.	Military Property Custodian
BOWEN, JEANNE F.	Assistant, Registrar's Office
BOWERS, MARY L., B.A.	Secretary, Audio-Visual Aids
BUNTE, MARY L., M.A. in Ed	Secretary to President
CALLAWAY, ARTHUR L., M.A. in Ed.	Assistant Registrar; Veterans' Adviser
COGNAC, EILEEN	Secretary, Industrial Arts
CONLEY, DANIEL E., JR., B.S.	Assistant, Business Office
CRANCE, T. T., B.A., C.P.A.	Auditor

CREASMAN, JAMES W., A.B. - - - - - Alumni Secretary
 CRUMBAKER, J. W., B.S. - - - - - Farm Superintendent
 DAVIES, MADOC W., M.A. - - - - - Head Resident, East Hall
 DECHANSO, MARY ELLEN - - - - - Assistant, Registrar's Office
 DOBBS, LAURA - - - - - Assistant, Business Office
 ELLIS, DON, B.A. - - - - - Assistant, Graduate Manager
 FRIDAY, ROY REINER - - - - - Assistant, Business Office
 GANSERT, DORIS - - - - - Secretary, Division of Student Affairs
 GENTILE, FRANCES J. - - - - - Clerk, Business Office
 GERLACH, MARY A. - - - - - Assistant Head Resident, South Hall
 GREEN, MAVIS A., B.A. - - - - - Claims Clerk Business Office
 HALL, MARTHA J., B.A. - - - - - Head Resident, North Hall
 HARRIS, FENN - - - - - Superintendent, Buildings and Grounds
 HAYDEN, SALLIE DAVIS - - - - - Head Resident, Matthews Hall
 HENDRIXSON, MARY ELAINE, M.N., R.N. - - - - - Director
 Student Health Service
 HIGHT, DORIS - - - - - Stenographer, Division of Student Affairs
 KEAGAN, MARY S. - - - - - Stenographer, Military Science
 KEEGAN, PEGGY L., B.S. - - - - - Director, Student Employment
 KINZLE, DONN, B.A. - - - - - Graduate Manager
 KRENKEL, MARGARET A. - - - - - Asst. Recorder, Registrar's Office
 KRUGER, ARLENE - - - - - Office Assistant, Records Office
 LOWTHER, RUTH, B.S. - - - - - Head Resident, Gammage Hall
 MAY, SIBYL S. - - - - - Purchasing Clerk, Business Office
 MAYES, JOANNA - - - - - Office Assistant, Records Office
 MENKE, MARGARET, B.M.E. - - - - - Secretary,
 Extension, Correspondence, Test Center
 MORRELL, GEORGE W., B.A. - - - - - Purchasing Agent, Business Office
 NERI, CHARLES A., B.S. - - - - - Manager, Bookstore
 OLSON, HARRIET HILL, B.A. - - - - - Secretary, Alumni Office
 PEPPE, JEANNE, B.S., B.Lit. - - - - - Secretary, Health Service
 PICERNO, THERESA E. - - - - - Switchboard Operator
 PRATT, BRENDA H. - - - - - Head Resident, Alpha Hall
 QUESADA, ALICE O. - - - - - Clerk, Business Office
 RHOTON, DREW - - - - - Cashier, Business Office

SHAYER, MARJORIE, B.A. - - - Director, Student Housing
 SOUTHERN, CLARENCE E., M.A. Head Resident, Stadium Hall
 STANFORD, CHARLOTTE LOIS, B.A. - - - - - Secretary,
 Dean of Men and Test Center
 SVARPA, GENEVIEVE E., B.S. - - - Director, Dining Hall
 SYMMS, EUGENIA, B.A., M.A. - Director, Student Activities;
 Head Resident, South Hall
 TIPTON, FRANCES BRAWNER - - - Recorder, Registrar's Office
 WALSH, MARGARET, B.A. - - - Head Resident, West Hall
 WESTERVELT, MARCUS W., M.D. - - - - College Physician
 YATES, GEORGE C., M.S. - - - - Head Resident, Irish Hall
 YOUNGER, BETTY B. - - - Secretary to Graduate Manager
 ZUROFF, BERTHA SPENIK - - - - - Payroll Clerk

Assistants in Maintenance Department

HENRIE, WILLIAM	RANNOU, WILLIAM E.
Supervisor of Janitors	Electrician
MCGINNIS, CHARLES	SVOB, ROBERT
Watchman	Gardener
HAYDEN, MARY C.	
Supervisor of Maids	

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 sixty 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; 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 . . ."

The law creating a Board of Regents of the University and State Colleges of Arizona, passed March 9, 1945, states:

"The board shall . . . establish . . . and determine 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."

Thus, the purposes of this College are of two types—general and specific. The general aims are to prepare each citizen to attain the following goals to the highest degree possible for him: (1) A vocation giving daily the thrill of success and of service to his fellows. (2) Good health habits and a healthy body. (3) A satisfying and constructive home life. (4) A type of citizenship over-reaching commu-

nity, state, and nation into a one-world interest. (5) Moral and ethical standards leading to a higher culture. (6) Habits of harmless enjoyment the intelligent use of leisure time.

Among the most important of the specific objectives of the college program are the following:

(1) An important function of the college is 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 will be taught by teachers possessing high mentality, broad social-cultural background of general education, high ideals of citizenship, thorough knowledge of subject matter, objective and scientific point of view, professional training and spirit, proven skill in the art of teaching, culture and efficiency in social relations, wholesome personality, vigorous health, and sound character. The College aims to serve in the selection, development, and preparation of teachers of this type.

(2) Another purpose of the College is to provide a basic program of general education. Provision for a broad social-cultural base is an essential in programs of education for all vocations. Objectives related to good citizenship, personal efficiency, aesthetic appreciation, general knowledge, and vigorous health are, after all, fundamental and basic in all programs of higher education.

(3) The College serves efficiently and well students desiring basic pre-professional courses such as pre-dental, pre-engineering, pre-agriculture, pre-forestry, pre-law, pre-medical, pre-nursing, pre-optometry, and pre-veterinary.

(4) The College offers curriculums in the Arts and Sciences leading to the Bachelor of Arts or the Bachelor of Science degree with areas of concentration in the various departments of the College.

(5) There is a growing demand for short practical curriculums not leading to graduation, but designed to give the student the background of skills and knowledges needed for a chosen trade. The College accepts this as one of its obligations.

(6) The College accepts its responsibility for providing in-services 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.

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 educa-

tional 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 has authorized new curriculums and courses, and the awarding of the Bachelor of Arts and the Bachelor of Science degree, in addition to the two degrees formerly granted—the degree of Bachelor of Arts in Education, and Master of Arts in Education.

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 four degrees. From a single building there has evolved a campus containing thirty fine buildings, and the original attendance of thirty-one has grown to a maximum of 3677 students for the second semester of 1948-1949.

Recognition by Accrediting Agencies

Arizona State College is fully accredited by 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 Pre-historic 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 nine 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.

Old Science Hall. This building is located on the east side of the old quadrangle. It now houses the Agriculture Department and classes from other departments.

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, Business Administration, 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 Service. 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 by students and faculty for social functions, and for 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 instructional center for women's physical education. Many of the larger social functions of the college are held here. The building was named in honor of the late Governor Moeur.

Alpha Hall. This dormitory for women is located on the east side of the campus.

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

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

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

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

Dixie Dees Gammage Hall. This is a recently constructed, modern structure for women. The hall was named in honor of Dixie Dees Gammage, the wife of President Gammage.

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

Irish Quadrangle. This comprises three men's dormitories located just west of Goodwin Stadium. These are designated Unit A, Unit B, and Unit C.

Green Gables. Green Gables is a men's dormitory. It has 6 frame buildings obtained from the United States Government.

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

Victory Village. In this village there are about 66 apartments 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.

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

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 woodworking, metal work, and aviation.

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.

Danforth Meditation Chapel. A chapel for devotions by individuals and small groups made possible by a gift of \$5000.00 by William Danforth supplemented by gifts from numerous students, faculty, and friends of the college.

New Science Building. This fine, modern building has just been completed. It was occupied for the first time the second semester, 1948-1949.

The Student Union. This is a temporary building just south of East Hall. It will serve the needs of students until a permanent building is constructed.

Entrance Information

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 at least thirty days in advance of the registration date. Transcripts are not required at the time of admission of those taking work in the summer session, in extension, or by correspondence.

Health Examination. A health examination, including a Kahn test and an x-ray of the chest, is required of all students attending regular day classes of the regular session before registering, excepting those who register for not more than 5 semester hours of work. They are not required of summer session students, extension students, or of students taking night or Saturday classes only. There is no fee if taken at the time scheduled. Students who fail to take these examinations at the time scheduled by the College will secure a form from the Infirmary; take it to an M.D. of his own choice; have it made out; obtain an x-ray and have the completed form with the roentgenologist's reading of the x-ray returned to the director of the Student Health Service. Such students pay the cost of the medical examination and x-ray.

Aptitude Tests. Four aptitude tests are required of all *new students before registering* with the following exceptions: those registering for not more than five semester hours of work, summer session students, extension students, and those taking night or Saturday classes only. These tests have nothing to do with a student's entrance. They are used only for student guidance. They require nearly 5 hours; therefore, a new student can not complete his tests and registration in one day. See the section headed, "The College Guidance Program" for description of tests.

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 satisfac-

torily the regular aptitude tests. Provisional admission will be removed on the successful completion of the first thirty semester hours of college work.

Non-Graduates of High Schools

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

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

2. *Adult Civilians, and Veterans Over 18.* Civilians over 21 years of age, and veterans over 18 years of age who are not graduates of approved high schools may be admitted to undergraduate standing with conditions. These conditions may be removed during the second semester in college as follows: (1) Carry at least 15 semester hours during a regular semester with an index of 1.75 or better. (2) Pass with an acceptable score the G.E.D. Tests, High School Level. (3) An affirmative vote of the Admissions and Standards Committee indicating that the student's record on his first semester's work, his G.E.D. tests, and on the college aptitude tests is satisfactory.

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

Special Information For Veterans

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

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

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

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

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

5. A veteran must report to the Registrar's Office if he discontinues school. A new Certificate of Eligibility is required when a veteran enters another institution.

Admission with Advanced Standing

1. Students from approved institutions of higher education ordinarily will be given credit, hour for hour, for work done in these institutions in so far as it applies to the requirements of the curriculum pursued at Arizona State College. Advanced standing credit for educational experience in the armed services will be granted in terms of the policies and practices recommended for all colleges and universities by the American Council 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. A student who wishes to have directed teaching waived must file a petition and letters of recommendation from principals or superintendents with the Director of Teacher Training.

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

The maximum credit that can be accepted from a junior college is sixty-four semester hours or ninety-six quarter hours. In general, required upper division professional courses cannot be taken in junior colleges for credit. Ordinarily, courses transferred from junior colleges cannot be accepted as upper division credit. 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. New students cannot complete the required aptitude and health examinations and finish registration in one day. Students registering late will be charged a late registration fee. Residence halls will be open to students on the dates given in the College calendar.

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

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

Course Loads. Students carrying twelve or more semester hours of work are classified as full-time students. 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.

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

Course Restrictions. Freshmen may not register for courses numbered 200-299 without the recommendation of their advisers and the approval of the heads of the departments concerned. Courses numbered 300 and above are open to graduate students only.

Freshman Registration. Freshmen, including transfers with 29 semester hours or less of credit, registering for the *first semester*, are expected to be present at all events scheduled for Freshman Week beginning at 8:30 A. M., Monday, on the date shown in the college calendar. Failure to attend any meeting may delay the student's registration, and a late fee will be charged for any examinations missed. See the section on the preceding page headed "Curriculum Advisers."

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

Registration of Sophomores, Juniors, and Seniors. Sophomores, juniors, and seniors registering in the regular session for the first time the *first semester* will first obtain their registration materials at the Registrar's office as early as Tuesday morning. They may report to the Lyceum for aptitude tests on Tuesday, Wednesday, or Thursday, of Freshman Week at 9:00 A. M. This will enable them to complete their aptitude and health examinations and complete registration Friday afternoon or Saturday morning. Those failing to do so will be charged the late fees.

For the *second semester* such students will report to the Lyceum at 8:30 A. M. Friday, preceding the registration dates, and complete both their aptitude and health examinations by noon, Saturday. Those coming later will be delayed in registration and will be charged a special fee.

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

Auditors. Students regularly enrolled 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 other than regularly enrolled students wishing to audit courses for record purposes will register in the regular manner and pay the regular fees. Those desiring to audit certain classes without record do not register or pay any fees. They need only to obtain the permission of the instructor concerned.

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

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

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

Dropping Courses after Tuesday of the Second Week. The courses for which a student is registered at the close of Tuesday 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 Tuesday of the second week, the student will obtain from the Office of the Dean of the College recommendation blanks for

dropping; have these signed by instructors; return them to the Dean's office and obtain an Authorization for Dropping Card; take it to the Business Office; pay the 50 cent fee; take receipt and card to Registrar's Office and obtain the drop card. An official drop notice is sent to instructors from the Registrar's Office after drop card has been filed. The drop notice is attached by the instructor to the student's class card and a final semester grade of Wp or We will be reported by the instructor at the end of the semester.

Withdrawal from College. Students who find it necessary to withdraw from college should withdraw officially. Failure to do so may result in marks of E in all classes. Withdrawal procedures are 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.

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.

The Testing Program. 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 achievement in reading, English, mathematics, science, and social studies; and certain temperament or personality traits.

In addition, the College Testing Center administers on a non-profit basis to interested students a battery of tests to assist them in making a choice of vocation and selecting college programs. Personal conferences are held with these students and the tests are interpreted to them.

Choosing a Curriculum. During freshman week a number of programs are held to assist students in deciding wisely upon a curriculum. In addition, each student will select a curriculum adviser and have conferences with him concerning his proposed choice of curriculum. After the student decides upon a curriculum, a faculty member in that field becomes the student's permanent curriculum adviser. Choosing a curriculum is an exceedingly important decision for a student. His happiness and success in college depend, in part, upon a selection suited to his abilities, interests, and personality.

Curriculum Advisers. When the student has made a curriculum choice, he will select a permanent curriculum adviser from the list of advisers assigned to the particular curriculum. This adviser assists the student in his selection of courses and signs his registration cards. He continues to counsel the student throughout his college course. At the close of the first semester, he gives the student his grade card and counsel with him then, and at various other times.

Personal Counseling. Personal counseling is directed by the Chairman of the Division of Student Affairs, the Dean of Women, the Dean of Men, and the Dean of the College. In many cases the personal problems of students are referred to other faculty members or the agency best qualified to help. Likewise the counseling often begins with the faculty and is referred to the deans for assistance.

Orientation. An orientation program under the supervision of the Division of Student Affairs is presented by members of the faculty to all new students. Emphasis is placed on study skills, social competence, vocational and educational guidance, and the development of a personal philosophy appropriate for a college educated individual.

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 Gammage Hall. There are six halls ordinarily occupied by men. These are East Hall, Stadium Hall, Green Gables, and units A, B, and C of Irish Quadrangle.

Apartments. The following temporary facilities are available: twenty apartments in Victory Annex; sixty-six Federal Public Housing Apartments; sixteen Palm Grove Apartments; fifty trailers in Victory

Village; and twenty apartments for faculty members. 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 The Business Office, 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.

Hall 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 student health service. There is a laundry room in each dormitory furnished with ironing boards for the laundering of personal belongings.

Residence Regulations. No single college influence may contribute more to the development of the personality and character of a student than that of dormitory life. The halls are so equipped and managed as to secure the maximum values at a minimum cost. For this reason women are asked to live in residence halls. A parent who desires to have a daughter room outside the halls must make written request to the Dean of Women. Such permission is granted only under special circumstances. No cooking of any kind is permitted in students' rooms. Vocal or instrumental music may not be practiced in any of the halls. Arrangements for such practice may be made through the music department. If radios are used, they must be adjusted so as not to interfere with the rights of others. Young women may be absent from the halls overnight only with the written consent of their parents, which must be on file with the head resident at the time of departure. 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 which students should bring with them when entering a hall: blankets and comforts for a single bed, one white bedspread, dresser scarf, washable laundry bag, and a study lamp. All should be clearly marked with the name of the student. *The college provides and launders sheets, pillow slips, hand towels, and bath towels.*

Regulations Concerning Guests. Guests may be accommodated in residence halls when space is available on the following conditions: (a) that the permission of the head resident has been secured; (b) that guests do not accept invitations from residents for the first four nights of the week or during examination time unless absolutely necessary; (c) that guests do not ask for accommodations for more than a three-day period. Visiting student groups may be accommodated when previous arrangements are made 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 off-campus only if approved by the Dean of Women. Men must obtain the approval of the Dean of Men. All such housing 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

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

Extending Credit. The College cannot extend credit, therefore students must have on hand when registering sufficient funds to pay for registration, incidental fees, books, and board and room for one month.

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

Regular Fees

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

Registration Fee	\$15.00
Paid by all except ng extensl n and corre pond nce students.	

Student Activity Fee.....	\$10.00
Excepting extension and correspondence students, this fee is paid by all who carry more than 5 semester hours. Only those students paying this fee receive activity tickets.	
College Series Fee.....	\$1.25
Paid by all excepting extension and correspondence students and those students carrying 5 semester hours or less.	
Health Fee	\$2.75
Paid by all excepting extension and correspondence students and those carrying 5 semester hours or less.	
Gymnasium Fee	\$2.00
Paid by all freshman and sophomore students.	
Student Union Fee.....	\$2.00
Paid by all students excepting extension and correspondence students.	
Library Fee	\$2.00
Paid by all excepting correspondence and extension students.	

Special Fees

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

Non-resident Tuition Fee (per semester).....\$125.00

Every non-resident carrying more than 5 semester hours of work pays this fee. Students registering for 5 hours or less may pay the registration and library fee only and receive no football tickets or other activity benefits, or they may pay all fees and receive all benefits. There is no non-resident fee for the summer session.

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

- (1) Students under 21 years of age must show that the supporting parent or guardian has been a bona fide resident of the State of Arizona for at least one year next preceding registration. If a legal resident of Arizona is appointed, the minor does not become a resident until the expiration of one year from the date of such legal appointment, and then it must be shown that such appointment was not made to avoid payment of the non-resident fees.
- (2) Students over 21 years of age must show that they have been bona fide residents of the State of Arizona for at least one year next preceding registration, and that they are eligible to become registered voters. Article VII, section 3, of the Constitution of Arizona provides, "For the purpose of voting, no person shall be deemed to have gained or lost a residence by reason of his presence or absence while employed in the service of the United States, or while a student at any institution of learning."
- (3) Aliens who have their first naturalization papers must show residence for the preceding year at least.

Responsibility for registering properly as a non-resident rests solely upon the student, and any false or misleading statements concerning residence constitute sufficient grounds for dismissal from the College. If there is any question concerning legal residence, the student is responsible for obtaining a blank from the registrar's office; filling it out completely; taking it to a notary public in the Business Office, and making a sworn statement concerning the facts given, and returning the blank to the Registrar's Office.

If the College records indicate that the student is a non-resident, the fee will be assessed. If the student is declared a resident, the fee will be refunded. Claims for refunds should be filed within 30 days of the date of registration.

Applied Vocational and Technical Fees (per month).....\$50.00

A fee of \$50.00 per month or fraction thereof is charged for this work. This applies to students enrolled under public law 346 and public law 16.

Room Reservation and Breakage Deposit.....\$5.00

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

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

Those taking courses for record purposes register and pay the regular fees. Those auditing without record do not register or pay any fees, but must make satisfactory arrangements with the instructor concerned.

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.

Test Fees—Teaching Entrance and Vocational.....\$0.50
A nominal fee is charged to pay the cost of test materials only.

Graduation Fee.....\$10.00
See description under another section of the bulletin headed Graduation Requirements and Degrees.

Cap and Gown Rental Fee.....\$2.50 to \$5.25
Bachelor's cap and gown for baccalaureate and commencement exercises, \$2.50. Master's cap and gown, \$2.75. Master's hood, \$2.50.

Fee for Dropping Course.....\$0.50
Charged beginning Wednesday 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.....\$1.00 to \$3.00
Charged beginning at noon of the last day scheduled for registration.

Late X-ray.....Actual Cost
Charged all students who fail to take the X-ray on the date specified by the College.

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.

Science Breakage Deposits

Chem. 110, 111, 114, 180, Bot. 220, Zool. 232.....\$2.50
Chem. 112, 141, 142, 211, 212, 215g, 251g, 252g, 270g, 280g.....\$5.00

GENERAL EXPENSES

Board and Room (per semester) \$206.50

The 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 and 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 week of final examinations. 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.

The College provides and launders sheets, pillow slips, hand towels and bath towels.

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

The 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 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.		40.00
Tuition (free to Arizona Students)		0.00
Books and Stationery (approximately)		25.00
Laboratory Fees (approximately)		10.00
Board and room (two semesters)		<u>413.00</u>
		518.00

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 Including Laboratory

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

Forfeiture of Refunds

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

Regulations Affecting Students

Attendance

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

No excuses for absence from class are granted either by the administration or by instructors. 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 possession, serving or use of intoxicants of any kind whatsoever is prohibited on the campus, at all social functions held under

the auspices of college-sponsored organizations or groups, wherever held, or at any other event in which college students participate where such possession, serving or use may reflect on the good name and reputation of the College.

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

Graduation Requirements

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. To obtain a second bachelor's degree, the student must do an additional 30 hours of work or more to meet all the requirements of the degree sought.

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 a bachelor's degree.

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 hours of final residence may be taken during a semester of the regular academic year or during the summer terms. Exception to the residence regulation may be made by the Admissions and Standards Committee. Petitions for an exception must be made in writing and addressed to the Registrar.

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 applications for graduation with the Registrar before November 15. Students cannot change their applications from one degree to another after the beginning of the final semester's work.

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 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 obtained at the Registrar's Office at the time of filing applications for graduation. Applications should be filed promptly after taking the oath of allegiance.

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 Dean of Instruction.

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."

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 as specified below.	

Graduate Scholarship Ratings. The marks used are the same as for undergraduates, but the 26 hours (exclusive of thesis) accepted in fulfillment of the requirements for the Master's degree shall average not lower than "B" grade.

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. If the Inc. is not removed, the instructor will report a mark of Wp. The department head is responsible for maintaining a record of the manner of removal of all incompletes given by members of his department.

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.

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

Change of Grade. A grade once reported to the Registrar's Office may be changed only 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.

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

Probation List. All Students, who, 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 Tuesday of a given semester are placed on the probation list. In addition, all students, even though passing in more than fifty per cent 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 of courses in which his marks are D or E. At the close of each semester he receives a report showing his standing in each course taken. These reports are handed to the student by his adviser during a conference held for the purpose of giving guidance to the student. Only the final mark for the semester is entered on the student's permanent record card.

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

Services to Students

Employment Service

Every effort is made through consultations and records to assist students to select jobs which tend to supplement their educational goals through training and experience. If a student finds it necessary to earn part of his expenses for college, he should write to the Student Employment Office, Room 121, Matthews Library Building, for information.

Classes of Jobs. Student jobs on campus fall into the following categories: office, janitorial and housekeeping, library assistants, dining hall assistants, building and grounds assistants, laboratory assistants, and general faculty assistants. In addition, a file of off-campus jobs is maintained with the cooperation of the community.

Hours, Wages and Student Responsibility. Student rates of pay vary from 55c to 65c per hour according to training and skill required. 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 other financial assistance if needed to continue their studies. Assignments are made on a semester basis. No change will be made unless an emergency arises. See also *Student Employment Bulletin* "Planning for a Student Job" page 5; "Balancing Class Schedule and Job" page 7; and "Assignments" page 7.

Health Service

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

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

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

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

Financial 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.

Honors and Awards

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

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

Business Administration Award. A trophy is presented annually 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.

Dixie Dees Gammage Award. An award of one hundred dollars given to an outstanding woman speech major by the Associated Women Students.

The Gibbons Leadership Awards. Each year, Mr. M. L. Gibbons of Mesa offers two prizes of \$25.00 each to a man and a woman who stand highest on a scale based on character, leadership, scholarship, and promise of future contributions to society.

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

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

Home Economics Awards. Two awards are given by the Home Economics department and Beta Chi to a senior and a sophomore for achievement in Home Economics and high general scholarship.

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

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

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

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.

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

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 an 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. Awarded 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.

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

Secretarial Award. An award given in the business administration department to the outstanding student of the year in secretarial courses.

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

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

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

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

Loan Funds and Foundations

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

The Dean of the College keeps a list of these in his office 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 loan is \$150.00. The interest is 4% until the date of maturity; thereafter, it 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 a fund available for the use of responsible and worthy students during their senior year.

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

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.

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

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

Harold V. Smith Educational Fund. Based on integrity, intelligence, character, competency, and aptitude. Loans are made to students between the ages of 18 and 25 who are self-supporting in whole or in part. The maximum loan for the school year is \$300.00 at 4% interest.

Applications. Students interested in loans or grants should make application at the office of the Dean of the College.

Placement Service

Placement Of Teachers

Purpose. The Placement Bureau is maintained to assist graduating students in securing suitable positions. Every effort will be made to place or aid the student in the field who desires help from the Placement Bureau. However, the Placement Office does not guarantee placement.

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

Commercial Placement. The Placement Bureau also serves graduating students who are interested in commercial and industrial placement. The Bureau urges those who are interested in securing permanent positions, to contact the Bureau. Graduating students are urged to register in order that satisfactory placement comparable with their training and experience can be undertaken.

Enrollment. Students may 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 every year if help is desired from the Bureau. These records consist of a photograph of the applicant and recommendations from faculty members and other individuals who are familiar with the student's work. Copies of these records are sent out upon request or can be examined by employers when they visit the Placement Office.

Interviews. Employers ordinarily prefer to interview students personally, and, therefore, arrangements are usually made for such interviews.

Write For Information. Requests for students to fill positions, reports of vacancies, and all other correspondence relative to placement should be addressed to Robert F. Menke, Director of Placement.

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.

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

Alumni Scholarships. At least two fifty-dollar scholarships are awarded annually to seniors 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. 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 yearly by Hazel Harvey Quaid to the freshman ranking highest in piano sight-reading, repertoire and general musicianship. Examinations are given during freshman week.

Associated Women Students Scholarship. This one hundred dollar scholarship is awarded to a high-school, senior girl, outstanding in scholarship, personality, and extra-curricular activities.

Band Scholarships. A number of scholarships are given. Some pay registration fees. Some pay fees for private lessons, and others pay an attractive sum to gifted students.

Chinese Scholarships. Six scholarships are awarded yearly to worthy students residents of China who wish to continue their education in America. Such students should be able to read and speak English with a fair degree of understanding. These scholarships pay registration and local fees, and out-of-state tuition.

Community Concerts Association Scholarships in Music. A scholarship in voice and one in piano are awarded annually to juniors and seniors who have spent the first two years of their college study at Arizona State College and have given evidence of musical ability, sincerity of purpose, and financial need. 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.

Eastern Star Scholarship. The Grand Chapter of the Order of Eastern Star of Arizona gives annually a scholarship of \$100.00 each semester to an outstanding woman graduate of an Arizona high school selected primarily on the basis of character, leadership, and scholarship. Preference is given to members of O. E. S., or daughters from Masonic families. Similarly qualified male veterans will be considered if no woman qualifies. On evidence of scholarly attainment the scholarship may be continued for a maximum of four years.

Freshman Scholarships. Several scholarships are awarded by the College each year to outstanding high-school seniors. They pay registration and other regular fees for the freshman year excepting fees for private lessons. They are valued at about \$70.00 per year.

Dixie Gammage Memorial Scholarship. A scholarship to the Music Camp valued at sixty dollars. The award is made by auditions at the College.

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

Ladies Auxiliary Scholarship. The Ladies Auxiliary to the Department of Arizona Veterans of Foreign Wars gives annually a scholarship of \$125.00 to the Arizona high school student ranking highest in the National Ladies Auxiliary Essay Contest. The winner may select the Arizona state institution of higher learning which he wishes to attend.

Latin-American Scholarships. Six scholarships are given to students from Latin-American countries. These cover registration and other local fees and the out-of-state tuition fee.

Los Conquistadores Scholarships. Members of Conquistadores have raised in Phoenix and Hayden \$200.00 each to be awarded to a worthy Spanish-speaking graduate of a high school in Hayden and Phoenix. Awarded on basis of need, scholarship, character, and promise of future success.

Mexican Scholarships. Six scholarships are given to residents of Mexico. They must be able to speak and read English passably. Scholarships cover registration, local fees, and out-of-state tuition.

Music Camp Scholarships. The college faculty presents three scholarships to gifted members of the Music Camp—one each in voice, piano, and an instrument. These scholarships pay for private lessons only. Selections are made by auditions given at the College.

Music Scholarships. A number of scholarships in applied music, paying for private lessons only, are given to talented students who need assistance in attending college. Selection is made by auditions at the College.

Phelps Dodge Scholarships. Four scholarships of \$1000.00 each annually are given by the Phelps Dodge Corporation. One goes to an Arizona high school graduate, and one each to a sophomore, junior and senior now in college. They are awarded on the following bases: (a) high scholarship, (b) high ability and promise, (c) personality, (d) character, (e) leadership.

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

Write for Information. Apply or write to the Dean of the College for information concerning any of these scholarships.

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 Regents, 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 interests of the men students and the College. The group is governed by officers elected by the members of the organization.

Associated Women Students. Every 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 Council is composed of duly elected officers, the presidents of the women's dormitories, and a representative from each women's society on campus.

The Student Union. Anticipating the time when a permanent student union will be established, a temporary union has been established. It will be staffed by a trained director.

Student Organizations

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

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

Departmental, Interest and Recognition Organizations

"A" Club (Men). Consists of all varsity letter winners in all major sports.

The "A" Club (Women). An honorary group of women who have earned 800 or 1,000 points in dance and sports activities.

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 language.

Alpha Phi Omega. A national service fraternity which continues the principles of the Scout oath and law.

Alpha Pi Epsilon. A national secretarial honor organization.

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

American Association of Engineers. For all students taking engineering.

American Institute of Architects. For students interested in architecture and its allied fields of building and construction.

Associated R.O.T.C. Club. Facilitates the integration of the R.O.T.C. program with other college activities.

Association for Childhood Education. A branch of the international organization. Promotes kindergarten-primary education.

Beta Chi Epsilon. For girls whose major interest is in home economics. Affiliated with the National Home Economics Association.

Blue Key. A national honorary service organization composed of men students of the junior and senior class.

Camera Club. The State Camera Club is open to all those interested in photography.

Chess Club. For all interested in the game of chess.

Der Deutsche Verein. To learn more of German culture and improve friendships between the two countries.

Dunbar Literary and Social Club. Organized by Joe Lewis. Provides literary and social opportunities for colored students.

Future Teachers of America. An organization devoted to the interests of prospective teachers.

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

4-H Club. Trains for leadership in 4-H clubs. Said to be the only club of its kind in the United States.

International Relations Club. A national organization interested in national and international affairs.

Kappa Delta Pi. A national honorary education society fostering high professional and scholastic standards, and service.

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

Los Conquistadores. Promotes the welfare of the Spanish-speaking students on the campus.

Mask and Sandal. Furthers interest in dramatics. Expedites membership into Alpha Psi Omega.

Mu Rho Alpha. An honorary fraternity which aims to recognize and develop musical ability and appreciation.

National Intercollegiate Rodeo Association. Sponsors a rodeo team for competition in college and university rodeos.

Off-Campus Women. Provides fellowship and facilities for all women not living in residence halls.

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

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

Pi Omega Pi. A national honor society for commerce majors interested in becoming teachers of commercial subjects.

Pleiades. An honorary women's service organization composed of twelve women selected from the junior and senior classes.

Psychology Club. Open to majors and minors in Psychology. Promotes interest in Psychology as a science.

Red Cross College Unit. For those interested in community work sponsored by the Red Cross.

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

Religious Organizations. Opportunity for participation in religious activities is offered through various organizations for college students meeting on the campus.

Campbell Club (Christian); Canterbury Club (Episcopal); Hillel Foundation (Jewish); Lambda Delta Sigma (L. D. S.); Newman Club (Catholic); Congo Club (Congregational); Student Association (Lutheran); Wesley Foundation (Methodist); Westminster Club (Presbyterian); Youth Fellowship (Baptist); Christian Science.

R.O.T.C. Officers Club. Composed of officers of the college unit. Promotes Americanism and good fellowship.

Russian Circle. Purpose is a better understanding of Russia and its language and literature.

Sigma Pi Sigma. A local honorary accounting society, stressing originality, scholarship, and sociability.

Social Welfare Club. Interprets social work and explores the opportunities in this field.

Sun Cherubs. For students majoring in Business Administration. Relates the work of the department to campus and business activities of Arizona.

Theta Chi Epsilon. An honorary art fraternity, aims to develop an appreciation for art and enrich aesthetic experiences.

Women's Athletic Association. Cooperates in furthering opportunities for participation in sports and dance activities.

Women's Physical Education Club. A departmental organization promoting physical education objectives.

Sororities and Fraternities

Inter-Fraternity Council. Composed of presidents of all fraternities and the Dean of Men. Sponsors meet with fraternities.

Inter-Sorority Council. The Inter-Sorority Council is composed of a representative of each sorority and the Dean of Women. Sponsors are members ex-officio.

Ulysses Club. Composed of men and women members of national fraternities not represented on this campus.

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

Chi Sigma

Kappa Kappa Alpha

Kappa Theta

Pi Alpha Gamma

Phi Beta Epsilon

Philomathian

Zeta Sigma

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

Delta Sigma Chi

Kappa Alpha Psi

Tau Sigma Phi

Delta Sigma Phi

Lambda Phi Sigma

Tau Kappa Epsilon

Special Group Activities

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.

Physical 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. 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.

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 or Mask and Sandal.

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 \$100.00 are offered for the best original orations on international peace.

The Student Social Program

The college calendar brings together programs and functions held on the campus and elsewhere. A Director of Student Activities in the Division of Student Affairs coordinates some 65 groups in their activities. A wide variety of activities is scheduled throughout the year. These include athletic events; social events including dances, dinners, banquets, teas; entertainment and lecture series; music and other cultural gatherings. Resident halls, both men and women, play an important part in carrying out the social program under the supervision of carefully selected personnel officers and faculty members. In addition to the all-college social and cultural functions, the various organizations offer programs and activities varying with their interests and fields of specialization.

Student Publications

The State Press. Under the auspices of the Associated Students, there is published, weekly throughout the college year, a seven-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.

Helios Magazine. A monthly literary magazine published by the students. Much of the material is contributed by the students; however, many contributions are being received from writers throughout the country.

The Sahuaro. The Sahuaro, traditional yearbook of the college, is published annually by a student staff. 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.

General Information

Alumni Association

Membership. The Alumni Association was organized under the leadership of President E. L. Storment, in June, 1894. Keeping pace with the tremendous growth of the college, the association employed a full-time executive secretary in September, 1947, and has embarked on a broad program of activities with a permanent staff now expanded to four members and a distinguished board of officers and directors. There are about 6800 members including the class of 1948. 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. At least two scholarships are given each year to outstanding students. See description under "Awards and Prizes."

Alumni Housing. To meet the need of housing returning veterans and their families, the Alumni Association has financed a \$40,000 emergency housing development that includes fifty trailer homes and twenty faculty apartments.

Alumni Magazine. The Association's official magazine, the *Statesman*, is published quarterly for all active members. Present circulation is now 5000.

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

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

Officers of the Alumni Association

Sidney B. Moeur, '14, President.....	Phoenix
Pat Downey, '38, First Vice-President.....	Phoenix
Roma Gentry, '37, Second Vice-President.....	Blythe, California
John Rouse, '37, Third Vice-President.....	San Pedro, California
Franklin Benedict, '29, Secretary.....	Benson
George Morrell, '41, Treasurer.....	Tempe
John R. Sandige, '14, Board of Directors.....	Phoenix
John R. Kendall, '33, Board of Directors.....	Phoenix
Charles A. Stauffer, '01, Board of Directors.....	Phoenix
Hascall Henshaw, '41, Board of Directors.....	Tempe
Lyle Trimble, '35, Board of Directors.....	Mesa
W. W. Caywood, '30, Board of Directors.....	Phoenix
James W. Creasman, '35, Executive Secretary.....	Arizona State College

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, bureau of audio-visual aids, 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 \$7.50 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 \$7.50 per semester hour of credit carried. 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.

Bureau Of Audio-Visual Aids

The College maintains an audio-visual library of films, slides, and film-strips, valued at \$25,000. The films are cooperatively owned by forty-one schools, including thirty elementary and eleven high schools. Any school in central Arizona may become a member by depositing films in the library in ratio to the school population. Information concerning membership may be obtained by writing to the Director, Bureau of Audio-Visual Aids.

In addition to the approximately five hundred school-owned films, the library contains seventy-five government and industrial films which may be used by any responsible organization. Possible sources of other audio visual aids may be obtained from the Bureau files. The latest service of the Bureau is the rental circulation of a series of five teacher education films, visualizing classroom activities and analyzing and evaluating teaching techniques. They are designed to help teachers improve their methods.

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, Bachelor of Science, Bachelor of Arts in Education, or 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 \$32.50 per term, both for residents and non-residents of Arizona. Textbooks and stationery may be purchased at the college book store on the campus. Board and room for the summer are furnished on campus at the prevailing rates.

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.

The College Libraries

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 four hundred students. The library contains an excellent reference collection, the Arizona collection, as well as other special collections. A growing collection of bound periodicals is available for reference and research. 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 more than 5,000 carefully selected juvenile books covering all types of literature. The book collection is supplemented by a file of pamphlets, pictures, and other materials; by a selection of outstanding juvenile periodicals; and by a textbook collection for the enrichment of directed teaching as well as for the children's use.

Curriculum Center. Housed in rooms 2 and 4 of Matthews Library Building is the curriculum laboratory, the work of which is closely tied in with the audio-visual facilities. These two projects are designed to serve the needs of teachers in training and Arizona teachers in service by bringing together pertinent books, courses of study issued by outstanding school systems, publications of the various state departments of education, textbooks used in Arizona elementary and secondary schools, monographs, teaching units, films and film-strips, and other supplementary materials which teachers are finding increasingly valuable in enriching classroom practices and extra-curricular activities. Materials useful in the guidance process, including most of the recent standardized tests and testing aids, are also available.

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 since the 1937 summer session.

The Graduate Council is responsible for the development and formulation of general policies and for the approval of procedures. 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. 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, and (3) special educational services such as remedial reading, student personnel, and guidance 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 teacher education curriculum.

The graduate program is designed to serve not only the needs of students who desire the master's degree, 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. To be admitted to regular standing, graduate students must file an Application for Admission to Graduate Study leading to the master's degree, and file official transcripts of all college work done elsewhere. 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 graduate work done elsewhere. (4) An undergraduate program showing breadth of content, and a satisfactory concentration in special fields.

Special Standing. Graduate students not seeking the master's degree are admitted to special standing on filing an Application for Admission to Graduate Study. Credit earned as a special graduate student may be applied toward the requirements for the master's degree only upon the approval of the Director of Graduate Study after transfer from special to regular standing.

Transcripts. Transcripts of undergraduate and of graduate work done elsewhere should be sent to the office of the Registrar 30 days prior to initial registration. Graduate students qualifying for an Arizona teaching certificate must file two copies of transcripts of undergraduate and of graduate work done elsewhere. The second copy will be sent to the State Department of Public Instruction with the application for the teaching certificate.

Registration. Graduate students register on the regular registration days at the beginning of each semester or summer term.

Course Load. Graduate students may not register for more than sixteen hours of work, inclusive of thesis, in any 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 load, inclusive of thesis, of five semester hours in any semester.

Fees. In general, fees for graduate students are the same as those for undergraduates. See section headed, "Fees, Deposits, and Expenses."

Advisement. The Director of Graduate Study is general adviser to all graduate students until their advisory committees have been appointed. A student starting graduate work shall request the appointment of his committee before the middle of the first semester of residence, or the end of the first summer term.

Admission to Candidacy

Admission to graduate study does not imply admission to candidacy for a master's degree. Admission to candidacy 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. (3) Selected a balanced program of graduate work directed toward the realization of a definite and worthy objective. (4) Demonstrated ability to do 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 investigation.

Before filing an Application for Admission to Candidacy, students may be required to take certain qualifying examinations. Advisers may arrange with the Director of Graduate Study for the administration of such 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 not later than four 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 Arizona State College.

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 completes with high credit the program of work outlined in his application for admission to candidacy. This program shall include a minimum of thirty semester hours

of advanced work so planned as to meet the approval of the student's advisory committee and the Graduate Council.

Prerequisites. Graduate students who intend to become candidates for the master's degree are required to present a minimum of twenty-four semester hours of undergraduate credit in Education and related courses. Graduate work presupposes certain undergraduate course prerequisites or the equivalent. 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 the 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 program of twenty-six hours of graduate course work (four semester hours for thesis excepted) in residence. This requirement is designed to assure 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 "g" 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 transfer as many as six semester hours to be applied toward the requirements for the master's degree.

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. All of the course requirements for the master's degree may be completed in summer residence. Six semester hours may be earned in a single summer term.

Time Limit. Graduate work will be accepted for credit on the master's degree only if 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. 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 one year of the official ending of the course.

Thesis. A thesis is required. The thesis may count for not more than four semester hours of credit. In the selection of a suitable thesis problem, the student shall be guided by his adviser. The 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 shall be deposited in the college library.

Final Examinations. Candidates for the degree of Master of Arts in Education are required to pass a final written and oral examination. The written examination shall precede the oral. The written examination will be scheduled in December, April, June and July. Candidates must file an application at least two weeks in advance of the regularly scheduled dates. Application blanks may be obtained from the Office of the Director of Graduate Study. Candidates will be notified of the date, time and place of the examination following filing of applications. The written examination will deal with the general program of professional studies and will embrace the following areas: (a) Philosophy and Social Foundations, (b) Curriculum and Methods, (c) Organization, Administration and Supervision, (d) Psychology and Guidance, (e) Research. 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. The oral examination will deal principally with the candidate's thesis study and his field of specialization.

Application for Graduation. Following admission to candidacy, and not later than March 1, the student shall pay a graduation fee at the Business Office and shall obtain from the Registrar's Office an application for graduation and shall file it there.

Conferring the Master's Degree. Candidates for the master's degree are required to be present at the commencement exercises in the prescribed academic costume. Exceptions 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 approved for graduate credit by the Committee on the Graduate Offering and the Graduate Council constitute the graduate offering. Courses open only to graduate students are numbered 300 and above. Candidates for the master's degree must present at least fifteen semester hours of credit, inclusive of thesis, in courses numbered 300 and above. Courses numbered 200-299 followed by "g" are upper division courses approved for graduate credit. Not to exceed fifteen semester hours in approved upper division courses will be accepted toward the master's degree.

Individual Problems. A special type of graduate work is provided through Individual Problem courses. Individual Problem courses carry the number 390 in each department. Ordinarily registration for such courses is limited to students who have been admitted to regular standing and have completed, or are currently registered for, five or more semester hours of graduate course work. Ordinarily not more than six semester hours in Individual Problem courses will be accepted toward the master's degree. Prior to registering for an Individual Problem course, the student must prepare a written statement of the title, purpose, and scope of the problem. This statement of the problem must be approved by the staff member under whose direction the problem is to be carried out, the student's graduate adviser and the Director of Graduate Study. Blanks for this purpose may be obtained from the Office of the Director of Graduate Study.

The Curriculums

Grouping of Curriculums. The curriculums offered by the college are listed under four headings: (1) Teacher-Education, (2) Arts and Sciences, (3) Pre professional and Professional, (4) 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."

Meeting New Requirements. Students starting a given curriculum may graduate under it if they continue their college work without interruption. However, 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.

Special Problem Courses. Courses numbered 290 indicate special problem courses. These are really honor courses given only to outstanding students capable of carrying on individual work effectively. The approval of the instructor and the head of the department must be obtained before a student will be registered for a special problem course. Freshmen and sophomores are not eligible to take special problems.

Individual Problems. These are strictly graduate courses. See description under the heading, "The Graduate Offering".

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.

Morning and Afternoon Classes. Students registered for a full load will generally find it necessary to carry classes both in the forenoon and the afternoon.

Teacher-Education Curriculums

Curriculums and Degrees. There are three teacher-education curriculums: Kindergarten Primary, Elementary, and Secondary. Each of these curriculums leads to the degree of Bachelor of Arts in Education requiring a minimum of 126 semester hours of work. The secondary

curriculum provides a five-year program requiring thirty hours of graduate work of which at least six hours must be in Education. This five-year program may lead to the degree of Master of Arts in Education. Students who complete the kindergarten-primary, or the elementary curriculum may also arrange for a program of studies leading to the degree of Master of Arts in Education.

Arizona Certification. The State Board of Education issues the following types of certificates: (1) Kindergarten-Primary, (2) Elementary, (3) Pre-Secondary, (4) Secondary, (5) Administrative, (6) Special in Art, Music, Home Economics. Students already working on special certificates in Commerce, Physical and Health Education and Industrial Arts must complete them before September 1, 1950, but no student may hereafter start work leading to these certificates. For complete details concerning certification, students should refer to the Rules and Regulations published by the State Board of Education, or consult with Mr. Payne in the Teacher Training Office.

General Education. It is assumed that all teachers should have a background of general knowledge and culture. Therefore, many of the required courses in the first two years in all of the teacher-education curriculums are identical. Liberal allowance has been made for electives to meet individual needs and desires for service in public education.

Major and Minor Teaching Fields. A major or minor teaching field is not required of students pursuing the kindergarten primary or the elementary curriculum. In the five year secondary curriculum the student must complete at least one major teaching field consisting of forty-five hours and one minor teaching field of at least fifteen hours.

Directed Teaching

Admission to Directed Teaching. Before admission, all candidates for directed teaching must meet the following requirements: (1) Senior standing. (2) A cumulative scholarship index of 1.75 or better. (3) Pass the teaching entrance tests. (4) Have credit in the required courses of the first two years of the teacher-education curriculum being followed. (5) Those pursuing the *kindergarten-primary curriculum* must have credit in Construction Activities, Play Education, Kindergarten-Primary Curriculum, Elementary Science, Language Arts, and Educational Measurements. (Kindergarten Primary Curriculum and Educational Measurements may be taken concurrently with directed teaching). (6) Those taking the *elementary curriculum* must have credit in Elementary Psychology, Educational Psychology, Language Arts, Elementary Curriculum, and Educational Measurements. (Curriculum and Measurements may be taken concurrently with directed teaching). (7) Those taking the

secondary curriculum must have credit in Elementary Psychology, Educational Psychology, Secondary School, Methods of Teaching in the Secondary School, and Educational Measurements. (Educational Measurements and Secondary Methods may be taken concurrently with directed teaching.)

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 either the first or second half of the fourth year. Students who are preparing for secondary certification teach for one-quarter day for one full semester in either the first or second half of the fourth year. 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 activities that interfere with their directed teaching, conferences, or other duties in the training school.

Training Schools Available. The College has available the following schools for the training of student teachers: The Ira D. Payne Training School, The College Nursery School, Tempe Grammar School, The Rural School, Phoenix Grade Schools, Phoenix Union High Schools, Mesa High School.

Each of these schools presents its own particular type of organization and problems so that the student may receive training in any type of work desired from the kindergarten through the high school. All of these are regular public schools; therefore, students obtain their training under actual classroom conditions of the public school. Each student teacher is under direct guidance of a critic teacher and the Director of Teacher Training.

Kindergarten-Primary Curriculum

Leading to the degree of Bachelor of Arts in Education and to certification for teaching in the kindergarten and grades one, two and three.

FRESHMAN YEAR			
First Semester	Hours	Second Semester	Hours
Eng. 101 First Year English _____	3	Eng. 102 First Year English _____	3
*G. S. 100 Introd. to Phys. Sciences _	4	*G. S. 110 Introd. to Biol. Sciences _	4
*Psych. 100 Elementary Psychology ____	3	*Soc. 120 Sociology _____	3
P. E. 101 Basic P. E. (women) _____	0.5	P. E. 102 Basic P. E. (women) _____	0.5
P. E. 107 Sports Survey (men) _____	0.5	P. E. 108 Sports Survey (men) _____	0.5
M. S. 101 Basic Military Science _____	1.5	M. S. 102 Basic Military Science _____	1.5
Electives _____	4 or 5.5	Electives _____	4 or 5.5
	16		16

SOPHOMORE YEAR

*Speech 110 Elements of Speech.....	2	*P. E. 100 Hygiene.....	2
Psych. 140 Growth and Development.....	2	Psych. 141 Growth and Development.....	2
Hist. 140 Western Civilization or		Hist. 102 Western Civilization or	
Hist. 143 U. S. History.....	3	Hist. 104 U. S. History.....	3
Mus. 125 Music Fundamentals for		Mus. 126 Music Fundamentals for	
K-P Teachers.....	2	K-P Teachers.....	2
*Ed. 160 Children's Literature.....	3	P. E. Activity (men), (women).....	0.5
P. E. Activity (men), (women).....	0.5	M. S. 104 Basic Military Science.....	1.5
M. S. 103 Basic Military Science.....	1.5	Electives.....	5 or 6.5
Electives.....	2 or 3.5		
	16		18

JUNIOR YEAR

*Ed. 205 Construction Activities.....	4	*Ed. 212 Play Education.....	3
*Sci. 231 Science, Elem. School.....	3	P. E. 215 Health, Elem. School.....	3
Mus. 227 K-P Music.....	2	Ed. 202 Language Arts.....	3
Ed. 201 Language Arts.....	3	*Ed. 209 K-P Curriculum.....	4
Electives.....	4	Electives.....	4
	16		16

SENIOR YEAR

*Ed. 260 Directed Teaching.....	10	*Ed. 211g History of Education or	
*Psych. 200 Ed. Measurements.....	3	*Ed. 250g Philosophy of Education.....	3
Electives.....	2	*P. S. 200 Constitutional Government.....	3
	15	*Ed. 233 Visual Aids Education.....	2
		P. E. 242 Health Education.....	3
		Electives.....	5

*May be taken either semester.

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Recommended courses for electives: Art 100, Eng. 171, Geog. 100 H. Ec. 103, 207, L. S. 203, Math. 205, Mus. 130, Speech 230, 240.

Students desiring the kindergarten-primary certificate must follow the kindergarten-primary curriculum with directed teaching in the kindergarten and grades one, two or three.

A piano test is given at the close of each semester. Students not able to play piano accompaniment sufficient to meet the needs of young children may take Mus. 121, 122, 123, and 124 to help meet the requirements of the piano test. Those who are interested in young children but are not interested in certification may choose any of the kindergarten-primary professional courses.

Elementary Curriculum

Leading to the degree of Bachelor of Arts in Education and to certification and teaching in the elementary school.

FRESHMAN YEAR

First Semester	Hours	Second Semester	Hours
Eng. 101 First Year English.....	3	Eng. 102 First Year English.....	3
*G. S. 100 Introd. to Phys. Sciences.....	4	*G. S. 110 Introd. to Biol. Sciences.....	4
*Psych. 100 Elementary Psychology.....	3	*Soc. 120 Sociology.....	3
P. E. 101 Basic P. E. (women).....	0.5	P. E. 102 Basic P. E. (women).....	0.5
P. E. 107 Sports Survey (men).....	0.5	P. E. 108 Sports Survey (men).....	0.5
M. S. 101 Basic Military Science.....	1.5	M. S. 102 Basic Military Science.....	1.5
Electives.....	4 or 5.5	Electives.....	4 or 5.5
	16		16.0

SOPHOMORE YEAR

Psych. 140 Growth and Development.....	2	Psych. 141 Growth and Development.....	2
*Speech 110 Elements of Speech.....	2	*P. E. 100 Hygiene.....	2
*Ed. 160 Children's Literature.....	3	*Geog 100 Elements of Geography.....	3
Hist. 101 Western Civilization or		Hist. 102 Western Civilization or	
Hist. 103 U. S. History.....	3	Hist. 104 U. S. History.....	3
P. E. Activity (men) (women).....	0.5	P. E. Activity (men) (women).....	0.5
M. S. 103 Basic Military Science.....	1.5	M. S. 104 Basic Military Science.....	1.5
Electives.....	4 or 5.5	Electives.....	4 or 5.5
	16		16

JUNIOR YEAR

*Psych. 200 Ed. Measurements.....	3	*Psych. 213 Ed. Psychology.....	3
Ed. 201 Language Arts.....	3	Ed. 202 Language Arts.....	3
Math. 205 Arithmetic, Elem. School.....	3	*Ed. 233 Visual Aids Education.....	2
Electives.....	7	*Sci. 231 Science, Elem. School.....	3
	16	Electives.....	5
			16

SENIOR YEAR

*Ed. 260 Directed Teaching.....	10	*P. S. 200 Constitutional Government.....	3
*Ed. 230 Elementary Curriculum.....	3	*Ed. 211g History of Education or	
*Art 210 Public School Art.....	2	*Ed. 250k Philosophy of Education.....	3
	15	*P. E. 220 Playground Leadership.....	2
		P. E. 242 Health Education.....	3
		Electives.....	4
			15

*May be taken either semester.

The elementary curriculum provides a four-year sequence of courses that leads to the degree of Bachelor of Arts in Education and to state certification in the elementary schools, grades one through nine inclusive. Students who wish to secure a special certificate in art, music, or physical education, may do so by arranging elective courses to cover the requirements of thirty semester hours of academic work and five hours of directed teaching in the special field. Students who plan to teach at the junior high school level may group their electives in major and minor teaching fields to suit their teaching interests.

The following courses are recommended for students planning to teach in elementary grades: Mus. 125, 126, 229; Art 100; P. E. 223; Eng. 171.

Secondary Curriculum

Leading to the degree of Bachelor of Arts and Master of Arts in Education and certification for teaching in the secondary schools.

FRESHMAN YEAR

First Semester	Hours	Second Semester	Hours
Eng. 101 First Year English.....	3	Eng. 102 First Year English.....	3
*G. S. 100 Introd. to Phys. Sciences.....	4	*G. S. 110 Introd. to Biol. Sciences.....	4
*Psych. 100 Elementary Psychology.....	3	*Soc. 120 Sociology.....	3
P. E. 101 Basic P. E. (women).....	0.5	P. E. 102 Basic P. E. (women).....	0.5
P. E. 107 Sports Survey (men).....	0.5	P. E. 108 Sports Survey (men).....	0.5
M. S. 101 Basic Military Science.....	1.5	M. S. 102 Basic Military Science.....	1.5
Electives.....	4 or 5.5	Electives.....	4 or 5.5
	16		16

SOPHOMORE YEAR

*Speech 110 Elements of Speech.....	2	*P. E. 100 Hygiene.....	2
Psych. 140 Growth and Development...	2	Psych. 141 Growth and Development...	2
Hist. 101 Western Civilization or		Hist. 102 Western Civilization or	2
Hist. 103 U. S. History.....	3	Hist. 104 U. S. History.....	3
P. E. Activity (men) (women).....	0.5	P. E. Activity (men) (women).....	0.5
M. S. 103 Basic Military Science.....	1.5	M. S. 104 Basic Military Science.....	1.5
Major, minor or electives.....	7 or 8.5	Major, minor or electives.....	7 or 8.5
	16		16

JUNIOR YEAR

*Psych. 213 Ed. Psychology.....	3	*Psych. 200 Ed. Measurements.....	3
*Ed. 215 Secondary School.....	3	*Ed. 228 Methods, Secondary School.....	3
Major, minor, or electives.....	10	Major, minor, or electives.....	10
	16		16

SENIOR YEAR

*Ed. 211g History of Education or		*P. S. 200 Constitutional Government.....	3
*Ed. 250g Philosophy of Education...	3	P. E. 242 Health Education.....	3
*Ed. 260 Directed Teaching.....	5	Major, minor, or electives.....	9
Major, minor, or electives.....	7		15
	15		

GRADUATE YEAR

Ed. 300 Thesis Preparation.....	2	Thesis.....	4
Electives.....	13	Electives.....	11
	15		15

* May be taken either semester.

A teaching course in the major teaching field may be substituted for Ed. 228.

Major and Minor Teaching Fields. Under the Secondary Curriculum a major and a minor teaching field are required. A major teaching field shall consist of a minimum of 45 semester hours of work, 25 semester hours of which shall be in courses in a subject field from one department, and the remaining 20 hours in courses from the same or related departments. A minimum of 18 semester hours in the major teaching field shall be upper-division courses.

A minor teaching field shall consist of at least 15 semester hours in a subject field in one department. It is strongly recommended that the major and minor teaching fields be taken in different departments. The major and minor teaching fields must be in accordance with those listed in the catalog under the departmental descriptions headed, Secondary Curriculum. It is recommended that a second minor teaching field be completed if possible.

In selecting major and minor teaching fields, students should keep in mind that a major and two minor teaching fields will increase their opportunities for employment. They should also keep in mind the requirements of the North Central Association, the Arizona State Board of Education, and the combinations of subjects usually assigned beginning teachers in Arizona. Information concerning these matters can be obtained at the office of the Director of Teacher Training.

The required courses found in the Secondary Curriculum count toward the completion of major and minor teaching fields. Students

pursuing a major teaching field in science or social studies are permitted to substitute the lower division requirements in the respective major teaching fields for the generalization requirements: G. S. 100 and 110; and History 101 and 102, or 103 and 104.

Recommended Electives: The following electives are recommended for students registered under the secondary curriculum: Art 100, Mus. 130, Eng. 171, Geog. 100, Ed. 232, 233, Math. 105.

Professional Sequence. It is essential that each student plan the proper sequence of professional courses. Education 215, Secondary School, is a prerequisite for all methods courses, History of Education, and Philosophy of Education. If a special methods course is taken in lieu of 228, Methods of Teaching in the Secondary School, it must be taken in the student's major teaching field.

Teaching Entrance Tests. Teaching entrance tests under the secondary curriculum include English fundamentals and the major and minor teaching fields of the student.

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: Span. 101-102, Ger. 101-102, Fr. 101-102, Rus. 101-102, Lat. 101-102. 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. 100 Hygiene (2)
P. E. Activity (2)

Humanities (6)

Art 160 Introduction to Art (2)
Eng. 171 Introduction to Lit (3)
Erg. 2 2 Semantics (2)
Mus 130 Introduction to Music (2)
Phil. 200 Introduction to Philos (3)
Eng. 151, 152, or 221-222, or 153 may
be submitted for Eng 171.

Social Science (12)

Bus. Ad. 130 Introd to Econ. (3) or Bus.
Ad 131 132 Econ (3 or 6)
Hist 101, 102 Western Civilization 3 or 6)
Hist 103 104 U. S. History (3 or 6)
Psych. 100 Elementary Psychology (3)
Soc 120 Sociology (3)
(Not more than 6 hours in any one subject)

Science and Mathematics (11)

Group 1 Biological Sciences
G.S. 110, (4) Zool. 110 (4); Bot. 110 (4)
Group 2 Physical Sciences
G. S. 100, (4); Chem. 110, (4), Chem. 111,
(4); Chem. 112 (5) Chem. 114, (4);
Phys 111, (4); Phys. 112, (4).
Group 3 Mathematics
Math. 105 (3), Math 120, (4).
(Not more than 8 semester hours in any
one group.)

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:

P. E. 100 Hygiene (2)
P. E. Activity (2)

Humanities (6)

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

Social Science (12)

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

Science and Mathematics (12)

In Biology, Chemistry, Geography or
Geology, Mathematics, Physics.
(Not more than 8 semester hours in any
one subject or in Geography and Geology.)

FOR THE B. A. DEGREE		FOR THE B. S. DEGREE	
<i>Department</i>	<i>Concentration Areas</i>	<i>Department</i>	<i>Concentration Areas</i>
Art	<i>Fine Arts</i>	Business Administration	<i>Accounting, Economics and Management, Marketing and Advertising, Secretarial Science</i>
English	<i>English, Speech Dramatics Journalism</i>	Education and Others	<i>Social Welfare</i>
Foreign Language	<i>Spanish</i>	Psychology and Others	<i>Psychology</i>
Mathematics	<i>Mathematics</i>	Home Economics	<i>General Home Economics</i>
Music	<i>Music</i>	Industrial Arts	<i>Industrial Arts</i>
Sciences	<i>Physical Sciences Biological Sciences</i>	Mathematics	<i>Mathematics</i>
		Physical Education	<i>Physical Education</i>
		Sciences	<i>Physical Sciences Biological Sciences</i>
Social Studies	<i>Social Studies</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 or Medicine, and those who wish 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 college. Credits earned in these courses, if properly selected, can be transferred without loss to schools of Law, Medicine, and other fields in which students plan to complete their 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-Veterinary and Pre-Forestry

The requirements for the first two years of courses in forestry and veterinary work vary considerably in the different colleges offering these programs. The student is advised to obtain a copy of the catalog from the school he plans to attend and select his program accordingly. The following course of study will meet most of the requirements if the student carefully selects electives to meet the requirements of the college that he plans to attend.

FIRST YEAR			
First Semester	Hours	Second Semester	Hours
Eng. 101 First Year English.....	3	Eng. 102 First Year English.....	3
Zool. 110 Prin. of Animal Biol. or Zool. 111 General Zoology.....	4	Zool. 112 General Zoology or Bot. 110 General Botany.....	4
Chem. 110 or 111 General Chemistry.....	4	Chem. 114 General Chemistry.....	4
Ag. 101 Crop Production.....	2	Ag. 102 Forage Crops or Elective.....	3
Ag. 107 Animal Husbandry.....	2	P. E. 102 Basic P. E. (women).....	0.5
P. E. 101 Basic P. E. (women).....	0.5	P. E. 108 Sports Survey (men).....	0.5
P. E. 107 Sports Survey (men).....	0.5	M. S. 102 Basic Military Science.....	1.5
M. S. 101 Basic Military Science.....	1.5	Electives.....	1.5 or 3
Electives.....	0 or 1.5		
	17		17.5
SECOND YEAR			
Bot. 171 Plant Anatomy.....	4	Bot. 172 Plant Physiology.....	4
Bot. 220 General Bacteriology.....	4	Chem. 130 El. Organic Chemistry.....	4
*Econ. 139 Introduction to Econ.....	3	P. E. Activity (men), (women).....	0.5
Phys. 111 General Physics.....	4	M. S. 104 Basic Military Science.....	1.5
P. E. Activity (men), (women).....	0.5	Electives chosen from Ag. 114, 116 125, 126, 143 and Phys. 112.....	6 or 7.5
M. S. 103 Basic Military Science.....	1.5		
Electives.....	0 or 1.5		16
	17		

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. 110 or 111 General Chemistry	4		Chem. 112 or 114 General Chem.	4 or 5	
Zool. 111 General Zoology	4		Zool. 112 General Zoology	4	
P. E. 101 Basic P. E. (women)	0.5		P. E. 102 Basic P. E. (women)	0.5	
P. E. 107 Sports Survey (men)	0.5		P. E. 108 Sports Survey (men)	0.5	
M. S. 101 Basic Military Science	1.5		M. S. 102 Basic Military Science	1.5	
Foreign Language or elective	4 or 5.5		Foreign Language or elective	3 to 4.5	
		17			17

SECOND YEAR

Bot. 220 General Bacteriology	4		Chem. 180 El. Organic Chemistry	4	
Phys. 111 General Physics	4		Phys. 112 General Physics	4	
Soc. 120 Sociology	3		Psych. 100 Elementary Psychology	3	
P. E. Activity (men), (women)	0.5		P. E. Activity (men), (women)	0.5	
M. S. 103 Basic Military Science	1.5		M. S. 104 Basic Military Science	1.5	
Foreign Language or elective	4 or 5.5		Foreign Language or elective	4 or 5.5	
		17			17

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. 110 or 111 General Chemistry	4		Chem. 114 General Chemistry	4	
H. Ec. 101 Elementary Nutrition	2		*Soc. 120 Sociology	3	
*Psych. 100 Elementary Psychology	3		H. Ec. 102 Clothing Selection	3	
*P. E. 100 Hygiene	2		*G. S. 110 Introd. to Biol. Science	4	
Speech 110 Elements of Speech	2		P. E. 102 Basic P. E. (women)	0.5	
P. E. 110 Basic P. E. (women)	0.5				
		16.5			17.5

SECOND YEAR

Chem. 211 General Organic Chemistry or Chem. 141 Quantitative Analysis	4		Chem. 212 General Organic Chemistry or Chem. 180 Elem. Organic Chem.	4	
H. Ec. 105 Applied Food Principles	3		H. Ec. 206 Food for Family	3	
Zool. 171 Human Anatomy Physiology	3		Zool. 172 Human Anatomy Physiology	3	
Enr. 171 Introduction to Literature	3		*Econ. 130 Introd. to Economics	3	
Social Science elective	3		Social Science elective	3	
P. E. Activity (women)	0.5		P. E. Activity (women)	0.5	
		16.5			18.5

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. 110 or 111 General Chemistry..	4	Chem. 112 General Chemistry.....	5
I. A. 113 Engineering Drawing.....	3	Math. 120 Analytic Geometry.....	4
Math. 107 College Algebra.....	3	I. A. 124 Descriptive Geometry.....	3
Math. 118 Trigonometry.....	3	P. E. 108 Sports Survey (men).....	0.5
P. E. 107 Sports Survey (men).....	0.5	M. S. 102 Basic Military Science.....	1.5
M. S. 101 Basic Military Science.....	1.5		
	<hr/> 18		<hr/> 17

SECOND YEAR

I. A. 145 Surveying.....	3	I. A. 209 Surveying or	
Math. 122 Differential Calculus.....	4	I. A. 156 Machine Design.....	3
Phys. 121 Engineering Physics.....	6	Phys. 122 Engineering Physics.....	5
I. A. 134 Materials of Construction..	2	Math. 123 Integral Calculus.....	4
I. A. 155 Mechanisms.....	3	I. A. 109 Calculations.....	3
P. E. Activity (men).....	0.5	P. E. Activity (men) (women).....	0.5
M. S. 103 Basic Military Science.....	1.5	M. S. 104 Basic Military Science.....	1.5
	<hr/> 19		<hr/> 17

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 his adviser.

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
Bus. Ad. 101 Elementary Accounting..	4	Bus. Ad. 102 Elementary Accounting..	4
*Psych. 106 Elementary Psychology ..	3	*Soc. 120 Sociology.....	3
Hist. 103 U. S. History.....	3	Hist. 104 U. S. History.....	3
P. E. 101 Basic P. E. (women).....	0.5	P. E. 102 Basic P. E. (women).....	0.5
P. E. 107 Sports Survey (men).....	0.5	P. E. 108 Sports Survey (men).....	0.5
M. S. 101 Basic Military Science.....	1.5	M. S. 102 Basic Military Science.....	1.5
Elective.....	2 or 3.5	Elective.....	2 or 3.5
	<hr/> 17		<hr/> 17

SECOND YEAR

Bus. Ad. 205 Business Law.....	3	Bus. Ad. 206 Business Law.....	3
Bus. Ad. 131 Principles of Econ.....	3	Bus. Ad. 132 Principles of Econ.....	3
P. E. Activity (men), (women).....	0.5	Speech 220 Public Speaking.....	2
M. S. 103 Basic Military Science.....	1.5	P. E. Activity (men) (women).....	0.5
Science elective.....	4	M. S. 104 Basic Military Science.....	1.5
Electives.....	4.5 or 6.0	Science elective.....	4.0
	16.5	Electives.....	2.5 or 4.0
			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. 110 or 111 Gen. Chem.....	4	Chem. 112 General Chemistry.....	5
Zool. 111 General Zoology.....	4	Zool. 112 General Zoology.....	4
*Soc. 120 Sociology.....	3	*Psych. 100 Elementary Psychology.....	3
P. E. 100 Hygiene.....	2	P. E. 102 Basic P. E. (women).....	0.5
P. E. 101 Basic P. E. (women).....	0.5	P. E. 108 Sports Survey (men).....	0.5
P. E. 107 Sports Survey (men).....	0.5	M. S. 102 Basic Military Science.....	1.5
M. S. 101 Basic Military Science.....	1.5	Electives.....	0 or 1.5
	16.5 or 18		17

SECOND YEAR

Chem. 141 Quantitative Analysis.....	4	Chem. 142 Quantitative Analysis.....	4
Bus. Ad. 130 Introd. to Economics.....	3	Soc. Studies elective.....	3
Chem. 180 Elem. Organic Chem.....	4	Zool. 163 Comparative Anatomy.....	4
Humanities Elective.....	2	Humanities Elective.....	2
Mathematics.....	3	P. E. Activity (men) (women).....	0.5
P. E. Activity (men) (women).....	0.5	M. S. 104 Basic Military Science.....	1.5
M. S. 103 Basic Military Science.....	1.5	Electives.....	2 or 3.5
	16.5 or 18		17

THIRD YEAR

Phys. 111 General Physics.....	4	Phys. 112 General Physics.....	4
Bot. 220 General Bacteriology.....	4	Chem. 220 Biochemistry or restricted science elective.....	4
Zool. 171 Human Anatomy.....	3	Zool. 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. 282 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
	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 B. S. or B. A. degree. A four-year curriculum is offered for the guidance of the pre-medical student, but he may complete two or three 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
Zool. 111 General Zoology	4	Zool. 112 General Zoology	4
Chem. 110 or 111 Gen. Chem.	4	Chem. 112 General Chemistry	5
P. E. 100 Hygiene	2	Bus. Ad. 130 Intro. to Economics	3
Math 106 or 107 Algebra	3	P. E. 102 Basic P. E. (women)	0.5
P. E. 101 Basic P. E. (women)	0.5	P. E. 108 Sports Survey (men)	0.5
P. E. 107 Sports Survey (men)	0.5	M. S. 102 Basic Military Science	1.5
M. S. 101 Basic Military Science	1.5	Electives	0 to 2
16.5 or 18		17	
SECOND YEAR			
Foreign Language	4	Foreign Language	4
Chem. 141 Quantitative Analysis	4	Chem. 142 Quantitative Analysis	4
Zool. 163 Comparative Anatomy	4	Bot. 220 General Bacteriology	4
*Psych. 100 Elementary Psychology	3	*Soc. 120 Sociology	3
P. E. Activity (men) (women)	0.5	P. E. Activity (men) (women)	0.5
M. S. 103 Basic Military Science	1.5	M. S. 104 Basic Military Science	1.5
15.5 or 17		15.5 or 17	
THIRD YEAR			
Chem. 211 General Organic Chem.	4	Chem. 212 General Organic Chem.	4
Phys. 111 General College Physics	4	Phys. 112 General Physics	4
Biol. 204 Genetics	3	Zool. 254 Embryology	4
Social Studies elective	3	Art 100 Introduction to Art	2
Humanities elective	2	Elective	3
16		17	
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	Zool. 232 Parasitology	4
Humanities elective	2	Electives	8
Electives	5	16	
15			

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
*Soc. 120 Sociology	_____	3	*Psych. 100 Elementary Psychology	_____	3
H. Ec. 101 Elementary Nutrition	_____	2	*G. S. 110 Introd. to Biol. Sciences	_____	4
Chem. 110 Introductory Chemistry	_____	4	Mathematics Elective	_____	3
Zool. 171 Human Anatomy	_____	3	Zool. 172 Human Physiology	_____	3
P. E. 101 Basic P. E. (women)	_____	0.5	P. E. 102 Basic P. E. (women)	_____	0.5
		<u>15.5</u>			<u>18.5</u>

TWO YEAR PRE-NURSING CURRICULUM

This curriculum is designed for nursing schools that require two years of general college education. The selection of electives should be made after consulting the catalog of the nursing school that the student plans to attend, and the pre-nursing adviser.

FIRST YEAR					
First Semester		Hours	Second Semester		Hours
Eng. 101 First Year English	_____	3	Eng. 102 First Year English	_____	3
*Soc. 120 Sociology	_____	3	*Psych. 100 Elementary Psychology	_____	3
Chem. 110 Introductory Chemistry	_____	4	Chem. 180 Organic Chemistry	_____	4
H. Ec. 101 Elementary Nutrition	_____	2	*G. S. 110 Introd. to Biol. Sciences	_____	4
Mathematics Elective	_____	3	P. E. 102 Basic P. E. (women)	_____	0.5
P. E. 101 Basic P. E. (women)	_____	0.5	Elective	_____	3
		<u>15.5</u>			<u>17.5</u>

SECOND YEAR					
*Eng. 171 Introduction to Literature	_____	3	Speech 120 Elements of Speech	_____	2
Zool. 171 Human Anatomy	_____	3	Zool. 172 Human Physiology	_____	3
Social Science elective	_____	3	Social Science elective	_____	3
H. Ec. 105 Applied Food Principles	_____	3	Electives	_____	7
Bot. 220 General Bacteriology	_____	4	Physical Education activity (women)	_____	0.5
Physical Education activity (women)	_____	0.5			
		<u>18.5</u>			<u>18.5</u>

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 complete all of the requirements 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 five or more semesters of regular college work.

Students without nursing training will meet the regular college admission requirements and will take the general college courses during the first year as outlined in the following curriculum. The basic

training in professional nursing will be taken during the next three years at the Good Samaritan Hospital. As a part of their professional training, students of nursing must take the extension courses that are outlined in the second year of the curriculum given below.

As a prerequisite for admission to the final year at the college, the student must pass the Arizona State Board examinations in nursing. Upon satisfactory completion of the requirements of a registered nurse in Arizona, and those of the college for this curriculum, the student is eligible for graduation with the degree of Bachelor of Science.

Before beginning the fifth year of the degree program in nursing, the student is advised to consult with the nursing adviser at the college, and select courses that will best meet her interest and needs. This work may be selected from the following fields, or combinations of them: English, Education, Home Economics, Foreign Languages, Physical Education and Science.

FIRST YEAR

First Semester		Hours	Second Semester		Hours
Eng. 101 First Year English	_____	3	Eng. 102 First Year English	_____	3
*Speech 110 Elements of Speech	_____	2	Eng. 171 Introd. to Literature	_____	3
Math. 105 Basic Mathematics	_____	3	Zool. 110 Principles of Animal	_____	4
*G. S. 100 Introd. to Phys. Science	_____	4	Biology	_____	4
P. E. 101 Basic P. E. (women)	_____	0.5	P. E. 102 Basic P. E. (women)	_____	0.5
Social Studies Elective	_____	3	Humanities Elective	_____	3
		<u>15.5</u>	Social Studies Elective	_____	3
					<u>16.5</u>

SECOND YEAR

(At Good Samaritan Hospital, Phoenix. Extension courses given by Arizona State College as part of professional training).

Chemistry for Nurses	_____	4	Microbiology	_____	4
Psychology	_____	3	Sociology	_____	3
Human Anatomy & Physiology	_____	3	Human Anatomy & Physiology	_____	3

THIRD YEAR

Good Samaritan Hospital (Professional Nurses' training course).

FOURTH YEAR

Good Samaritan Hospital (Professional Nurses' training course).

FIFTH YEAR

(At Arizona State College at Tempe)

Biol. 204 Genetics & Eugenics	_____	3	Chem. 180 Elem. Organic Chem.	_____	4
Restricted Electives	_____	14	Restricted Electives	_____	12
		<u>17</u>			<u>18</u>

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, official transcripts of all work done in high school, college, and nursing schools together with a certified statement of registration as a nurse, and ownership of a valid nursing license. Upon acceptance of those credentials, ad-

vanced standing credit, not to exceed 46 hours including credit for hygiene, will be granted for work completed in an approved school of nursing.

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 Zool. 171-172; H. Ec. 101, 105; and Math. 105.

The additional requirements of the College for graduation will be worked out under the guidance of the nursing adviser.

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 First Year English.....	3
Chem. 110 or 111 General Chem.....	4	Chem. 112 or 114 General Chem. 4 or 5	4
Math. 106 or 107 Algebra.....	3	Math. 118 Trigonometry.....	3
Zool. 111 General Zoology.....	4	Zool. 112 General Zoology.....	4
P. E. 107 Sports Survey (men).....	0.5	P. E. 108 Sports Survey (men).....	0.5
M. S. 101 Basic Military Science.....	1.5	M. S. 102 Basic Military Science.....	1.5
	16		17
SECOND YEAR			
*Psych. 100 Elementary Psychology.....	3	*Soc. 120 Sociology.....	3
Phys. 111 General College Physics.....	4	Phys. 112 General Physics.....	4
Zool. 103 Comparative Anatomy.....	4	P. E. 100 Hygiene.....	2
Speech 110 Elements of Speech.....	2	Social Science elective.....	3
Social Science elective.....	3	P. E. Activity (men).....	0.5
P. E. Activity (men).....	0.5	M. S. 104 Basic Military Science.....	1.5
M. S. 103 Basic Military Science.....	1.5	Electives.....	3
	18		17

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

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

Purposes. 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 other institutions; (3) to offer courses in applied agriculture for those expecting to enter the production and industrial fields of agriculture.

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. Such courses do not give college credit.

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 meat packing may be offered. In these courses formal class instruction is reduced to a minimum, being provided largely through consultations 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 be modified to fit the needs 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: Bot. 110, 171, 172; Ag. 101, 102, 107, 114, 116, 125, 126; Chem. 110, 114 or 111 112, 180.

Description of Courses

Ag. 101 Crop Production. The principles of field crop production. Special emphasis on cultural practices in Arizona. Fee \$2.00. One lecture and one 3 hour laboratory a week. Credit, 2 hours.

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

107 Principles of Animal Husbandry. Principles of livestock management and production. Score card and judging practices. Prerequisite to other animal husbandry courses. Fee, \$1.00. One lecture and 2 hours laboratory. Credit, 2 hours.

108 The Breeds of Livestock. Characteristics of breeds of farm animals; origin, history, and development; pedigree studies. Credit, 2 hours.

114 Dairy Husbandry. Dairy farm management, feeding, breeding, herd improvement, pedigree, calf raising, dairy equipment and diseases. Fee, \$1.00. Three lectures or equivalent field work. Credit, 3 hours.

116 Poultry Husbandry. Poultry management, and application to local and regional conditions. Three lectures or equivalent field work. Credit, 3 hours.

124 Vegetable Crops. Areas of production and cultural practices. Emphasis on the vegetable garden. Prerequisites: Ag. 108, Bot. 110. One lecture, and 3 hours field work. Credit, 3 hours.

125 Principles of Horticulture. Plant propagation. Nursery practices.

Orchards and home grounds. Prerequisite: Bot. 110. Fee, \$1.00. One lecture and 3 hours laboratory. Credit, 2 hours.

126 *Practical Horticulture*. Ornamental trees and shrubs, flowering plants, and landscaping. Prerequisite: Ag. 125. Fee, \$1.00. One lecture and 3 hours laboratory. Credit, 2 hours.

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

144 *Irrigation Principles and Practices*. History of irrigation, extent and importance, water measurements, application and conservation of irrigation water. Prerequisite: Ag. 143. Fee, \$2.00. Credit, 3 hours.

185 *Animal Nutrition and Applied Feeding*. Principles of feeding, composition of feeds, physiology of nutrition, and formulating rations. Prerequisites: Ag. 107 and college chemistry. Fee, \$2.00. Credit, 3 hours.

186 *Farm Organization and Management*. Selection of the farm, management, crop selection, diversification, capital utilization, cost accounting, etc. Fee, \$2.00. Credit, 3 hours.

202 *Livestock Production*. Production, care, and management of livestock. Lectures or equivalent laboratory. Fee, \$1.00. Credit, 3 hours.

206 *Market Milk*. The classes of market milk, sanitation, milk inspection, and scoring of dairies. Three lectures or equivalent laboratory. Prerequisite: Bot. 220. Fee, \$1.00. Credit, 3 hours.

208 *Livestock Judging*. A study of various breeds of livestock. Trips to stock farms, ranches, and livestock fairs. One lecture and 3 hours laboratory. Fee, \$1.00. Credit, 2 hours.

212 *Commercial Vegetable Crops*. Soil practices, cultural methods, harvesting and marketing of leading truck crops. Alternates with Ag. 123. Prerequisite: Ag. 130. One lecture and 6 hours field work. Credit, 3 hours.

216 *Plant Breeding*. The principles of plant breeding, and selection and hybridization. Prerequisites: Ag. 108, Biol. 204, Bot. 110. Fee, \$2.00. Credit, 3 hours.

219 *Animal Breeding*. The principles of genetics applied to animal breeding. Prerequisites: Biol. 204, Zool. 111, 112. Credit, 3 hours.

230 *Soil Conservation*. The study of soil management as a conservation agency. Two lectures and 3 hours laboratory. Fee, \$2.00. Credit, 3 hours.

246 *Range Management*. Grazing regions, range forage, range improvement, range plants. Prerequisites: Ag. 107, Bot. 110. Fee, \$5.00. Two lectures and 3 hours laboratory. Credit, 3 hours.

The following courses in agricultural mechanics will be taught at the Thunderbird Field No. 2 shops located north of Scottsdale.

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

KLOSTER (Head of the Department), HARTER, SANDERSON,
MORRIS, BERGAMO.

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 pre-professional arts preparing the student for an art career, (4) art for general culture.

Teacher-Education Curriculums

The Kindergarten-Primary and Elementary Curriculum

For Students Not Specializing in Art. The student in the elementary curriculum will find the following courses valuable in teaching: Art 101, 105, 117, 121, 151, 161, 207, and 210.

For Students Specializing in Art. Students registered in the elementary curriculum wishing to major in art education or to secure the special certificate in art should take the following courses: Art 101, 103, 105, 106, 117, 121, 151, 161, 207 and 211. Additional courses to complete the requirement of 30 semester hours in art should be selected

from the upper division offering. Art 207 should precede Directed Teaching. Students majoring in art should complete Art 101, 103, 105, and 106 during the freshman year.

The Secondary Curriculum

To complete a major teaching field in art, at least 45 semester hours of work must be completed in the first four years and not less than 18 of the total shall be upper division. Candidates for the master's degree planning to teach art courses in the secondary schools should complete additional art courses in the fifth year. Under the guidance of his adviser the student may elect, during the third, fourth, and fifth years, optional art courses according to his interests and abilities.

Required Courses. Students in any major teaching field in art must take the following 30 semester hours of work: First and second years, Art 101, 103, 105, 106, 117, 121, 123, 151, 161; third and fourth years, Art 208, 211, 212. Art 208 should precede Directed Teaching.

Major Teaching Field in Creative Art. In addition to the required 30 hours, those interested in painting and sculpture will select at least 15 hours from the following: Art 171, 172, 191, 203, 204, 213, 261, 271, 291, 292, 295, 296.

Major Teaching Field in Practical Arts. In addition to the 30 required hours, 15 hours will be selected from the following: Commercial Art—Art 203, 204, 221, 222, 223, 224, 290; Interior Design—Art 141, 142, 241, 290; Ceramics—Art 152, 251, 252, 290; Fashion Design and Illustration—Art 131, 135, 231, 232, 235, 290; Crafts—Art 217, 218, 290.

Minor Teaching Field in Art. This field consists of not less than 15 hours, of which at least 7 shall be upper division. The following should be included: Art 101, 105, 208, 211.

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 pages 74, 75 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 45 semester hours in required and optional courses as indicated below.

Required Courses. Each student with art as an area of concentration must take the following 22 semester hours of work: Art 101, 103, 105, 106, 121, 161, 211, 212, 213.

Optional Courses. In addition to the required courses listed above, 23 semester hours must be selected from the field of emphasis given below.

(1) Emphasis on Creative Art. Those interested in the creative arts will select their courses from the following: Art 117, 171, 172, 191, 203, 204, 261, 271, 290, 291, 292, 295, 296.

(2) Emphasis on Practical Arts. Students especially interested in the professional arts will select 23 hours from the following: Art 121, 123, 131, 135, 141, 142, 151, 152, 203, 204, 217, 218, 221, 222, 223, 224, 231, 232, 235, 241, 251, 252, and 290.

Description of Courses

Art 100 *Introduction to Art.* A study of painting, sculpture, and architecture, to develop comprehension and appreciation of the fine arts. Some laboratory experience. Each semester. Fee, \$1.00. Credit, 2 hours.

101 *Drawing and Perspective.* General drawing and principles of elliptical, parallel and angular perspective. First year, each semester, 4 hours a week. Credit, 2 hours.

102 *Drawing and Perspective.* Emphasis on drawing techniques and composition. Prerequisite: Art 101. First year, second semester, 4 hours a week. Credit, 2 hours.

103 *Life Drawing.* The basic construction of the human figure. Emphasis on solidity and proportion. Fee, \$1.00. First year, each semester. 6 hours per week. Credit, 3 hours.

105 *Basic Design.* Problems in design. A study of color and color harmony. Fee, \$1.00. First year, first semester, 4 hours a week. Credit, 2 hours.

106 *Basic Design.* Creative design in relation to painting, sculpture, ceramics and related arts. Prerequisite: Art 105. Fee, \$1.50. First year, second semester, 4 hours a week. Credit, 2 hours.

117 *Allied Crafts.* A laboratory course dealing with leather, textile decoration, metal and wood. Fee, \$3.00. Second year, each semester, 6 hours a week. Credit, 3 hours.

121 *Lettering*. Construction, spacing, and arrangement of Roman and Gothic letters. Fee, \$1.00. First year, each semester, 4 hours a week. Credit 2 hours.

123 *Commercial Art*. Practical problems in six major advertising media. Recommended for journalism and commerce majors. Prerequisite: Art 121. Fee, \$1.00. Each semester, 6 hours a week. Credit, 3 hours.

131 *Fashion Design*. Initial course in designing and constructing fashions. A survey of manufacturers, retailers, designers and illustrators. Prerequisites for Art majors: Art 103, 105. Fee, \$2.00. Six hours a week. Credit, 3 hours.

135 *Fashion Illustration*. Introduction to fashion illustration. Emphasis upon sketching and rendering. Prerequisites: Art 103, 105. Six hours a week. Credit, 3 hours.

141 *Interior Design*. Problems in interior design, renderings of floor plans, elevations and interior sketches. Prerequisites: Art 101, 105. Fee, \$5.00. First semester, 6 hours a week. Credit, 3 hours.

142 *Interior Design*. Coordinated planning in decorating interiors. Emphasis upon modern ways of achieving space, renderings in color and perspective, and scale models. Prerequisites: Art 101, 105, 141. Fee, \$5.00. Second semester, 6 hours a week. Credit, 3 hours.

151 *Ceramics*. A laboratory course dealing with pottery and figurine techniques. Fee, \$5.00. Second year, 4 hours a week. Credit, 2 hours.

152 *Ceramics*. Emphasis upon ceramic form and expression. Fee, \$5.00. Second year, 4 hours a week. Prerequisite: Art 151. Credit, 2 hours.

161 *Water Color*. Painting in gouache and transparent water color. Emphasis on techniques. Prerequisite for art majors: Art 101, 105. Fee, \$1.00. Each semester, 6 hours laboratory. Credit, 3 hours.

171 *Sculpture*. Modeling in round and relief, casting and mold making. Building armatures. Plaster carving. Prerequisites for art majors: Art 103, 106. First semester, 4 hours a week. Fee, \$4.00. Credit, 2 hours.

172 *Sculpture*. Study of the various stages in development of sculpture. Emphasis upon wood carving. Prerequisites: Art 103, 106, 171. Second semester, 6 hours a week. Fee, \$4.00. Credit, 3 hours.

191 *Oil Painting*. Sketching excursions and indoor painting. Landscape, still life and figure. Prerequisites for art majors: Art 101, 105, 106. Fee, \$1.50. Each semester, 6 hours a week. Credit, 3 hours.

203 *Advanced Life Drawing*. Emphasizes form and anatomical structure of figure and head. Various mediums and techniques. Prerequisite: Art 103. Fee, \$2.00. Each semester, 6 hours a week. Credit, 3 hours.

204g *Advanced Life Drawing*. Continuation of Art 203 with anatomical research, one hour additional each week. Group criticism. Prerequisites: Art 103, 203. Fee, \$2.00. Each semester, 6 hours laboratory, 1 hour outside preparation. Credit, 3 hours.

207 *Art in the Elementary School*. Required of those specializing in elementary school art. Emphasis on instructional methods, materials and procedures in teaching art. Should precede student teaching. Two hours a week. Credit, 2 hours.

208 *Art in the Secondary School*. Required of students in the secondary curriculum with a major teaching field in art. Emphasis on methods, materials and subject areas. Should precede student teaching. Two hours a week. Credit, 2 hours.

210 *Public School Art*. Emphasizes tools, materials and procedures of importance in directing children's art activities. Should precede student teaching. Fee, \$2.00. Third year, each semester, 4 hours a week. Credit, 2 hours.

211 *Western Art to the Renaissance*. A survey of western art to the Renaissance with emphasis upon classic art. Fee, \$1.00. First semester, 3 hours a week. Credit, 3 hours.

212 *Renaissance Art*. Continuation of Art 211. A survey of the art of the Renaissance. Fee, \$1.00. Second semester, 3 hours a week. Credit, 3 hours.

213g *Contemporary Art*. Emphasizes aims and tendencies in art expression, and major artists and their contributions. Prerequisite for art majors: Art 211. Fee, \$1.00. Second semester, 2 hours a week. Credit, 2 hours.

217 *Advanced Crafts*. Correlation of function with medium and design. Problems in weaving, book-binding, and costume jewelry. Individual problems. Prerequisite: Art 117. Fee, \$3.00. Six hours a week. Credit, 3 hours.

218g *Advanced Crafts*. Students specialize in a particular craft medium or technique. Prerequisites: Art 105, 106, 117, 217. Fee, \$3.00. Third year, 6 hours a week. Credit, 3 hours.

221 *Advanced Lettering*. Emphasis on arrangement and spacing. Prerequisite: Art 121. Fee, \$1.00. Each semester, 4 hours a week. Credit, 2 hours.

222 *Advanced Lettering*. Recommended only to those having a special interest in lettering. Prerequisite: Art 221. Fee, \$1.00. Each semester, 4 hours a week. Credit, 2 hours.

223 *Advanced Commercial Art*. The student specializes in areas in which he is most interested. Prerequisites: Art 103, 105, 121, 123. Fee, \$1.00. Six hours a week. Credit, 3 hours.

224 *Advanced Commercial Art*. Planning and preparation of samples of work for presentation to prospective employers. Prerequisites: Art 123, 223. Fee, \$2.50. Six hours a week. Credit, 3 hours.

231 *Advanced Fashion Design*. Designing clothes with relation to price ranges and materials. Style forecasting. Prerequisite: Art 131. Fee, \$2.00. Six hours a week. Credit, 3 hours.

232 *Advanced Fashion Design*. Students may specialize in designing clothes for special types, for the junior miss or for children. Prerequisites: Art 131, 231. Fee, \$2.00. Six hours a week. Credit, 3 hours.

235 *Advanced Fashion Illustration*. Illustrating clothes and accessory merchandise for newspaper, magazine and catalog advertising. Prerequisites: Art 131, 135. Six hours a week. Credit, 3 hours.

241 *Advanced Interior Design*. Emphasis on fabrics, materials, wood and floor coverings used in modern interiors. Prerequisites: Art 101, 105, 141, 142. Fee, \$5.00. Six hours a week. Credit, 3 hours.

251 *Advanced Ceramics*. Students specialize in pottery or ceramic sculpture. Ceramic techniques, glaze preparation, formula interpretation, stacking and firing kiln, etc. Prerequisites: Art 105, 106, 151, 152. Fee, \$7.00. Third year, 6 hours a week. Credit, 3 hours.

252g *Advanced Ceramics*. Mastery of studio techniques of ceramic production and glazing. Prerequisites: Art 105, 106, 151, 152, 251. Fee, \$7.00. Fourth year, 6 hours a week. Credit, 3 hours.

261 *Advanced Water Color*. More advanced problems in picture construction. Prerequisite: Art 161. Fee, \$1.00. Each semester, 7 hours a week. Credit, 3 hours.

271 *Advanced Sculpture*. Experimenting with various materials and working from model. Prerequisites: Art 103, 106, 171, 172. Fee, \$5.00. First semester, 6 hours a week. Credit, 3 hours.

291 *Advanced Oil Painting*. Emphasis on design, plastic form, preparation of canvas and gesso grounds, and techniques. Prerequisite: Art 191. Fee, \$1.50. Each semester, 6 hours a week. Credit, 3 hours.

292g *Advanced Oil Painting*. For those with a serious interest in painting. Prerequisite: Art 292. Fee, \$3.00. Each semester, 6 hours laboratory and 1 hour research a week. Credit, 3 hours.

295 *Figure Painting*. Painting from posed model in oil, gouache, tempera or water color. Prerequisites: Art 103, 161, 191, 203, 291. Fee, \$4.00. Four hours a week. Credit, 2 hours.

296g *Figure Painting*. Prerequisite: Art 295. Fee, \$4.00. Four hours a week. Credit, 2 hours.

310 *Seminar in Art Education*. Critical evaluation of current philosophy, theory and trends in modern art education. Group discussion of curricular problems. Prerequisite: Art 207 or 208. Credit, 2 hours.

Department of Business Administration

HILKERT (Head of the Department), BRATCHER, BURTON, FEDER,
HEGNER, KOHLER, MARK, MOUNT, MCKINNON, SARDIGA,
SHAW, SHEPPARD, ZACHER.

The department 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, Economics and Management, Marketing and Advertising, 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 business administration.

Teacher-Education Curriculums

Kindergarten Primary and Elementary Curriculums.

The department does not encourage students following the elementary or the kindergarten-primary curriculum to take major or minor teaching fields in commerce, however, it is suggested that electives from the following courses may be quite helpful: Bus. Ad. 101, 102, 110, 120, 141, 233.

The Secondary Curriculum

Major Teaching Field in Business Education. The major teaching field for commercial subjects in high school consists of the following 51

semester hours taken in the first four years: Bus. Ad. 101, 102, 120, 131, 132, 141, 171, 173, 201, 202, 205, 206, 233, 235, 236, 241, 251, 252. *Minor Teaching Field in Business Education.* The minor teaching field consists of the following 16 semester hours: Bus. Ad. 101, 102, 120, 141, 235.

Arts and Sciences Curriculum

The degree. The completion of a four-year curriculum, including the generalization requirements and an area of concentration in business administration 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 business administration, must complete the 40 semester hours of work outlined on pages 74, 75 of the catalog, and in addition one of the four areas of concentration as outlined below.

Areas of Concentration.

Required Courses. In addition to the generalization requirements, each student taking an area of concentration in business administration must take the following 31 to 33 hours of work: Bus. Ad. 101, 102, 131, 132, 141, 173, 205, 206, 224, 233. Bus. Ad. 131, 132, may be applied on the 12 hours of social studies in the generalization requirements.

In addition to the 31-33 hours of required courses, each student will select one of the areas given below and complete the work prescribed.

Accounting. The following 24 hours are required: Bus. Ad. 201, 202, 203, 204, 207, 208, 209, 210; and 12 hours are to be selected from the following optional courses: Bus. Ad. 103, 133, 211, 212, 213, 217, 220, 221, 222, 226, 266; Math. 106 or other upper-division mathematics; Eng. 128. Completion of the area of concentration with an emphasis on accounting should qualify the student to pass the C. P. A. examination, however students planning to take these examinations should select additional accounting hours in choosing optional courses.

Economics and Management. Students must complete the following 24 hours of work: Bus. Ad. 133, 215, 217, 219, 226, 257, 259, 266; and 12 hours to be selected from the following optionals: Bus. Ad. 134, 201, 202, 220, 221, 222, 258, 262, 265, 267, 268, 289, 293; Geog. 101; Hist. 109.

Marketing and Advertising. The student must complete the following 24 hours of required courses: Bus. Ad. 174, 175, 277, 278, 279, 281,

283, 293, 294; and 12 hours to be selected from the following optionals: Bus. Ad. 133, 171, 217, 226, 256, 285, 286, 287, 289; Eng. 220; Geo. 101; H. Ec. 215, 219; Psych. 214; Hist. 109; Art 122, 201.

Secretarial Science. Students must complete the following 24 semester hours of required courses: Bus. Ad. 103, 120, 121, 215, 235, 236, 238, 241, 242, 243; and 12 hours to be selected from the following optionals: 141, 171, 201, 202, 217, 265; H. Ec. 202; Eng. 107, 128.

Description of Courses

Accounting

Bus. Ad. 101 *Elementary Accounting.* A beginner's course. Covers the bookkeeping cycle and preparation of business reports. Lectures and laboratory 5 days a week. Credit, 4 hours.

102 *Elementary Accounting.* A continuation of Bus. Ad. 101. Prerequisite: Bus. Ad. 101. Credit, 4 hours.

103 *Payroll and Miscellaneous Taxes with Accounting Procedures.* Social security and unemployment laws with respect to taxes, benefits payable, merit ratings, payroll records. Sales tax and payroll reports. Prerequisite: Bus. Ad. 102. Credit, 2 hours.

141 *Business Mathematics.* Gives practice in arithmetic used by the business man. Each semester. Credit, 3 hours.

201 *Intermediate Accounting.* Study of corporations and corporation accounting, assets, liabilities, funds and reserves, comparative statements, working capital, ratios, etc. Prerequisite: Bus. Ad. 102, Credit, 3 hours.

202 *Intermediate Accounting.* A continuation of 201. Prerequisite: Bus. Ad. 201. Credit, 3 hours.

203 *Advanced Accounting.* Partnership organization, dissolution and liquidation. Parent and subsidiary companies, consolidated balance sheets and profit and loss statements. Estates, trusts. Prerequisite: Bus. Ad. 202. Credit, 3 hours.

204 *Advanced Accounting.* A continuation of 203. Prerequisite: Bus. Ad. 203. Credit, 3 hours.

207g *Auditing Theory and Practice.* Auditing practices and procedures, working sheets, audit reports. Prerequisite: Bus. Ad. 202. Credit, 3 hours.

208g *Cost Accounting.* Cost find systems, process costs, standard costs, estimate costs, cost accounting procedure. Prerequisite: Bus. Ad. 201. Credit, 3 hours.

209g *Governmental and Institutional Accounting.* Accounting principles applied to governmental units—city, county, and state—and to public institutions. Prerequisite: Bus. Ad. 201. Credit, 3 hours.

210g *Income Tax—Federal and State.* Laws, regulations, tax returns and procedures especially for individuals and partnerships. Prerequisite: Bus. Ad. 201. First semester. Credit, 3 hours.

211g *Income Tax—Federal and State.* Fiduciaries, corporation income and excess profit taxes, reorganizations, holding companies, estate and gift taxes. Tax refunds, etc. Prerequisite: Bus. Ad. 210. Second semester. Credit, 3 hours.

212 *Mathematics of Accounting.* Approved methods for computation of income tax and consolidated balance sheet equations, etc. Prerequisites: Math. 106, Bus. Ad. 102. Credit, 2 hours.

213 *Mathematics of Accounting.* Compound interest, annuities, bond valuation and amortization, and building and loan problems. Prerequisite: Bus. Ad. 212. Credit, 2 hours.

291 *Seminar in Accounting.* Students select a special field of accounting and do individual study and research. Open only to accounting majors. Prerequisite: approval of instructor. Hours arranged. Credit, 1 to 3 hours.

292 *Seminar in Accounting.* A continuation of 291. Prerequisite: Bus. Ad. 291. Credit, 1 to 3 hours.

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

Economics and Management

130 *Introduction to Economics.* Descriptive analysis of basic economic institutions and processes and application to current problems. For non majors in Bus. Ad. Each semester. Credit, 3 hours.

131 *Principles of Economics.* Theories of production, exchange, distribution and consumption and application to current economic problems. Credit, 3 hours.

132 *Principles of Economics.* A continuation of Bus. Ad. 131. Prerequisite: Bus. Ad. 131. Credit, 3 hours.

133 *Economics of Enterprise.* Price and output decisions of the individual business firm under conditions of competition, monopoly, monopolistic competition, and oligopoly. Prerequisite: Bus. Ad. 132. Credit, 3 hours.

134 *Economics of Income and Employment.* Analysis of determinants of aggregate level of employment, output and income of an economy. Prerequisite: Bus. Ad. 133. Second semester. Credit, 2 hours.

205 *Business Law*. Contracts, sales, agency, partnerships, corporations, negotiable instruments, personal property, real property, and federal and state regulation of business. Credit, 3 hours.

206 *Business Law*. A continuation of 205. Prerequisite: Bus. Ad. 205. Credit, 3 hours.

215 *Business Organization and Management*. Forms of business organization and types of management. Prerequisites: Bus. Ad. 102, 132. Credit, 3 hours.

217 *Money and Credit*. Function of money, monetary systems, credit functions, banking practices and policies. Prerequisite: Bus. Ad. 132. Credit, 3 hours.

219 *Labor Relations*. Appraisal of problems confronting labor and capital as well as legislation and administrative regulations affecting employers and employees. Prerequisite: Bus. Ad. 132. Credit, 3 hours.

220 *Investments*. Analysis and evaluation of various types of securities. Business cycles, currency problems, and governmental control. Prerequisite: Bus. Ad. 132. Credit, 3 hours.

221 *General Insurance*. Coverage available, buying methods, procedures in settling claims, insurance companies, and vocational opportunities. Prerequisite: Bus. Ad. 132. Credit, 2 hours.

222 *Life Insurance*. Policy forms, insurance companies, computation of premiums, contract settlements, sales methods, and opportunities in the field. Prerequisite: Bus. Ad. 221. Credit, 2 hours.

224 *Business Statistics*. Sources, classification and tabulation of data, index numbers, graphs, etc. and their applications to business. Prerequisite: Bus. Ad. 132. Fee, \$1.00. Credit, 4 hours.

226g *Business Cycles and Forecasting*. Historical, statistical and analytical study of business cycle theory. Comparison of theories of leading economists. Methods of control of cyclical fluctuations. Prerequisite: Bus. Ad. 224. Credit, 3 hours.

257 *Public Finance*. Principles and practices of taxation, public expenditures, credit, budgetary policy. Prerequisite: Bus. Ad. 132. First semester. Credit, 3 hours.

258 *Economics of Public Utilities*. Economic, legislative and administrative problems in the regulation of public utility rates and service standards. Study of public utility costs, pricing policies, rates, plant utilization, and competition. Prerequisite: Bus. Ad. 132. Second Semester. Credit, 3 hours.

259g *Economics of Transportation*. Theory and practice of railroad transportation. Principles of rate-making, valuation, and Interstate

Commerce Commission procedure. Regulation of railroad, motor truck, and air transportation. Prerequisite: Bus. Ad. 132. Credit, 3 hours.

262 *Comparative Economic Systems*. Economic aspects of communism, fascism, nazism, capitalism, socialism. Prerequisite: Bus. Ad. 132. Credit, 2 hours.

263g *Land Economics and Utilization*. Local, regional, and national land use problems and policies, including tenancy, valuation, credit, taxation, and conservation. Prerequisite: Bus. Ad. 132. Credit, 3 hours.

265 *Personnel Administration*. Personnel selection, placement, training, promotion, wage incentives, absenteeism, counseling, etc. Prerequisite: Bus. Ad. 132. Credit, 3 hours.

266 *Corporation Finance*. Promotion, corporate organization, financing, selling securities, dividend policies. Prerequisites: Bus. Ad. 102, 132. Credit, 3 hours.

267g *History of Economic Thought*. Development of economic doctrine. Ancient and medieval writings, mercantilists, classical and neo-classical foundations. Prerequisite: Bus. Ad. 132. First semester. Credit, 2 hours.

268 *Advanced Economic Analysis*. Value, price and distribution theories. National income analysis and application to public policy. Recent developments in economic theory. Prerequisites: Bus. Ad. 134, 267. First semester. Credit, 3 hours.

289 *Foreign Trade*. Fundamentals underlying foreign trade, international commercial policies, developing markets abroad, importing and exporting. Prerequisite: Bus. Ad. 173. Credit, 3 hours.

298g *Investigation of Business Problems*. Individual study of selected business problems such as resources, labor supply, production organization, finance, and marketing. Prerequisite: Approval of department head. Hours, arranged. Credit, 1 to 3 hours.

299g *Investigation of Business Problems*. Continuation of Bus. Ad. 298. Prerequisite: Bus. Ad. 298. Credit, 1 to 3 hours.

Marketing and Advertising

Bus. Ad. 171 *Salesmanship*. Principles applicable to selling merchandise and the creation of a favorable personal impression. Prerequisite: Bus. Ad. 132 or concurrent registration. Credit, 2 hours.

173 *Principles of Marketing*. Survey of principles and trends. Prerequisite: Bus. Ad. 132 or concurrent registration. Credit, 3 hours.

174 *Marketing Practices*. Practices and problems confronting the marketing executive and the development of techniques found useful in their solution. Prerequisite: Bus. Ad. 173. Credit, 3 hours.

175 *Advertising*. Introductory study of advertising theory and practice in relation to marketing and general business management. Prerequisite: Bus. Ad. 173. Credit, 3 hours.

256 *Marketing of Agricultural Products*. Practices, processes and agencies related to marketing, livestock, farm crops. Factors affecting prices. Cooperative organizations. Prerequisites: Bus. Ad. 133, 173. Credit, 3 hours.

277 *Principles of Retail Merchandising*. The scope of merchandise planning and control, inventory and purchases, markup and profit. Prerequisite: Bus. Ad. 173. Credit, 3 hours.

278 *Retail Store Management*. Problems of store management including location, layout, customer services, personnel, and operational factors as they affect successful retailing. Prerequisite: Bus. Ad. 277. Credit, 3 hours.

279 *Wholesaling*. Its organization and function in the marketing channel, services, price policies, regulation and recent trends. Prerequisite: Bus. Ad. 174. Credit, 2 hours.

281g *Sales Administration*. Administration of a sales organization; sales planning, sale quotas, selection, training, and compensation. Prerequisite: Bus. Ad. 279. Credit, 2 hours.

283g *Marketing Research*. Types and use of market research, analysis procedures, planning the investigation, interpretation, presentation of result, etc. Prerequisites: Bus. Ad. 174, 224. Credit, 3 hours.

285 *Advertising Copy*. A study of the writing of effective advertising copy including practice in the preparation of copy. Prerequisites: Bus. Ad. 175, 233. Credit, 2 hours.

286 *Advanced Advertising Technique*. Advertising planning, selection of media, and creation of advertising matter from the initial idea through the processes of engraving and printing. Prerequisite: Bus. Ad. 175. Credit, 3 hours.

287 *Radio and Television Advertising*. Techniques and problems of radio and television as advertising media including program selection and planning, preparation of continuity, and coordination with other forms of advertising. Prerequisite: Bus. Ad. 175. Fee, \$1.00 Credit, 3 hours.

293g *Price Policies*. Price making on organized exchanges; pricing and price systems. Prerequisites: Bus. Ad. 278, 279. Credit, 2 hours.

294g *Marketing Management*. An advanced study of the application of practices, techniques, and skills to the management of marketing problems. Prerequisites: Bus. Ad. 281, 283, 293. Second semester. Credit, 3 hours.

Secretarial Science

110 *Techniques in Typewriting*. Fundamentals of touch typewriting. Emphasis upon technique and development of vocational and personal use skill. Not open to students with two semesters of high school typewriting. Fee, \$2.00. Daily. Credit, 2 hours.

113 *Elementary Shorthand—Gregg*. The study and application of the principles of Gregg Shorthand. Daily. Credit, 3 hours.

113 *Elementary Shorthand—Thomas*. The study and application of the principles of Thomas shorthand. Daily. Credit, 3 hours.

114 *Intermediate Shorthand—Gregg*. A continuation of Bus. Ad. 113 with increasing emphasis on dictation and transcription. Prerequisite: Bus. Ad. 113. Fee, \$1.00. Daily. Credit, 3 hours.

114 *Intermediate Shorthand—Thomas*. A continuation of Bus. Ad. 113 with increasing emphasis on dictation and transcription. Prerequisite: Bus. Ad. 113. Fee, \$1.00. Daily. Credit, 3 hours.

120 *Projects in Typewriting*. Advanced instruction in applied typewriting with emphasis upon skill requirements needed in a modern office. Prerequisite: Bus. Ad. 110 or 2 semesters high school typing. Fee, \$2.00. Daily. Credit, 2 hours.

121 *Projects in Typewriting*. A continuation of 120. Prerequisite: Bus. Ad. 120. Fee, \$2.00. Daily. Credit, 2 hours.

233 *English in Business*. Business writing effectively applied to various forms of reports and business communication. Prerequisite: Eng. 102. Each semester. Credit, 3 hours.

235 *Advanced Shorthand*. Review of the principles of shorthand and continuing with graded dictation and transcription. Prerequisites: Bus. Ad. 114, 120. Fee, \$1.00. Daily. Credit, 3 hours.

236 *Advanced Shorthand*. Minimum objective, to perform as an efficient stenographer with dictation of 120 words and transcription of 25 words per minute. Prerequisite: Bus. Ad. 235. Fee, \$1.00. Daily. Credit, 3 hours.

237 *Transcription*. Integration of skills acquired in shorthand, typewriting, and related secretarial courses developed to a level of job proficiency. Prerequisite: Bus. Ad. 235. Fee, \$2.00. Daily. Credit, 3 hours.

238 *Secretarial Problems*. The understandings, attitudes, and appreciations required of the personal or private secretary in a modern office. Prerequisites: Bus. Ad. 120, 235. Fee, \$1.00. Credit, 2 hours.

241 *Office Machines*. Operation of selected office machines and their adaption to office needs and procedures. Optional for secretarial

students. Prerequisites: Bus. Ad. 141. Fee, \$5.00. Daily. Credit, 2 hours.

242 *Secretarial Office Practice*. Training in the operation of selected office equipment specifically designed for use by secretaries. Prerequisite: Bus. Ad. 120. Fee, \$5.00. Daily. Credit, 2 hours.

243g *Office Organization and Management*. Analysis of function and costs of operating office departments. Prerequisite: Bus. Ad. 241. Credit, 3 hours.

Commercial Teacher Training

251 *Commercial Teaching Methods*. Methods and material used in the teaching of business subjects in Arizona public schools. Prerequisites: Bus. Ad. 102, 114, 120, Ed. 215. Credit, 2 hours.

252 *Commercial Teaching Methods*. Study of business offerings in public secondary schools. Prerequisite: Bus. Ad. 251. Credit, 2 hours.

Department of Education and Sociology

BURKHARD (Head of the Department), PAYNE, RICHARDSON, RICE, BENEDICT, TURNER, MENKE, KUYKENDALL, STEWART, BYERS, BAKER, CRAWFORD, FRENCH, PODLICH, SCHREIBER, ANDERSON.

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

Detailed outlines concerning curriculums leading to the B. A. and M. A. degrees in Education and also to certification for teaching in kindergarten-primary, elementary, and secondary schools of Arizona will be found on pages 68-74.

Kindergarten Primary Curriculum

The Kindergarten-Primary Curriculum offers specialized training for students who wish to teach young children. The teaching certificate covers the kindergarten and grades one, two and three. The courses are designed to give the student a better understanding of young children and of their total personality development during the first years of their school adjustment. Special emphasis is given to the growth and development of the child and how he learns rather than to specific subject matter. There is a wide demand for teachers who complete the kindergarten primary curriculum.

Elementary Curriculum

This curriculum prepares students for service in the elementary school. No major or minor teaching fields are required. It is advisable that the student take some work in the various departments of the college so as to have a broad knowledge covering many fields. Opportunities for employment as teachers are greatest in the elementary fields. By proper selection of courses of instruction it is possible for students who care to take the necessary extra time to qualify eventually for the secondary certificate also. Interested students will consult an educational adviser who will explain how both certificates may be obtained.

Secondary Curriculum

The secondary curriculum provides a five-year program requiring a minimum of 126 semester hours of work for the Bachelor of Arts in Education degree and an additional 30 semester hours of work, including at least 6 semester hours in Education, for the degree of Master of Arts in Education.

Generalization Requirements. The following courses totaling 35 semester hours are required of all students registered under the secondary curriculum: Eng. 101, 102, Psych. 100, Soc. 120, Speech 110, G. S. 100, 110, Hist. 101, 102, or 103, 104. P. S. 200, P. E. 100, and P. E. Activity.

Professional Requirements. In addition to the courses listed under the generalization requirements, all students registered under the secondary curriculum are required to take the following 24 semester hours of work in education and psychology: Ed. 215, 211 or 250, 228, 260, Psych. 141, 142, 200, 213.

Major and Minor Teaching Fields. Students under the secondary curriculum are required to complete a major and a minor teaching field. It is recommended that a second minor teaching field be completed if possible.

A major teaching field shall consist of a minimum of 45 semester hours of work, 25 semester hours of which shall be in courses in a subject field from one department, 20 semester hours of which shall consist of courses from the same or related departments. A minimum of 18 semester hours in the major teaching field shall be upper division courses.

A minor teaching field shall consist of at least 15 semester hours in a subject field in a department exclusive of courses counted toward the major teaching field. Each of the courses included in the generalization requirements, as listed on this page, count toward the total number of semester hours required for the respective major and minor teaching fields.

In selecting major and minor teaching fields students should keep in mind the requirements of the North Central Association, the Arizona State Board of Education, and the combinations usually assigned beginning teachers in Arizona high schools. Information concerning these matters can be obtained at the office of the Director of Teacher Training.

Recommended Electives. The following electives are recommended for students registered under the secondary curriculum: Art 101, Ed. 232, 233, Eng. 171, Geog. 100, Hist. 110, Math. 105, Mus. 130.

Professional Sequence. In addition to the required professional courses, listed on page 72-74, it is essential that each student plan the proper sequence of professional courses. Education 215, Secondary School, is prerequisite for all methods courses, History of Education, and Philosophy of Education. If special methods courses are taken in lieu of Ed. 228, Methods of Teaching in the Secondary School, they must be taken in the major teaching field of the student.

Teaching Entrance Tests. Teaching entrance tests under the secondary curriculum include English fundamentals, the major and minor teaching fields at the secondary level, and other tests desired.

Secondary and Elementary Certificates. Students planning to meet the requirements for the secondary certificate and also desiring the elementary certificate must take Ed. 230, Elementary Curriculum, and five additional semester hours of directed teaching in grades four to eight, inclusive. The additional teaching shall be in grades exclusive of those in which the first five semester hours of directed teaching were taken.

Arts and Sciences Curriculums

Students wishing to prepare for service in the field of social welfare will pursue the program of studies listed below. Students

completing the Arts and Sciences Curriculum with an area of concentration in social welfare will receive the B. S. degree. The generalization requirements for this degree are listed on pages 74-75 of this catalogue.

Area of Concentration in Social Welfare

Purposes and General Requirements. The area of concentration in social welfare provides 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: Soc. 120; G. S. 100, 110; Bus. Ad. 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, 231, 234, 240, Bus. Ad. 219, 225, P. S. 200, 201, 204, Econ. 131, Biol. 130, 140, 204, Phil. 200, Eng. 171.

Description of Courses in Education

160 *Children's Literature.* Folk and modern literature for elementary school children; a study of types; wide reading; story telling and reading aloud. Prerequisite: Eng. 102. Second year, each semester. Credit, 3 hours.

201 *Language Arts.* For the kindergarten and grades 1, 2, 3. Emphasis

on teaching beginning reading and prevention of reading difficulties. Other phases of language arts considered. Credit, 3 hours.

202 *Language Arts*. For intermediate and upper grades. Emphasis on the development of skill in reading as a means of doing research work. Spelling, handwriting, composition, and creative writing are considered. Prerequisite: Ed. 201. Credit, 3 hours.

205 *Construction Activities in the Kindergarten-Primary School*. Work with clay, paper, textiles, wood, paint, etc. contributing to creative expression in the integrated activity program. Fee, \$5.00. Third year, each semester. Eight hours a week. Credit, 4 hours.

209 *Kindergarten Primary Curriculum and Teaching Problems*. The philosophy, principles, and practices of kindergarten-primary education. Discusses all phases of the curriculum. Prerequisites: Ed. 201 and one course in K-P education. Third or fourth year, each semester. Credit, 3 hours.

211g *History of Education*. The social life, ideas, and institutions that gave direction to western civilization. A background for understanding and evaluating present educational and social problems. Credit, 3 hours.

212 *Play Education*. Theories of play with emphasis on utilization of play interests in rhythms, plays and games. Third year, each semester. Credit, 3 hours.

213g *Evaluation of Children's Literature*. Social and educational concepts expressed in literature and changes in values and principles that are needed. Prerequisite: at least one course in literature. First semester, alternate years. Credit, 2 hours.

215 *Secondary School*. The principles of secondary education: its functions, objectives, curriculum, methods, problems, and trends. Credit, 3 hours.

216g *Educational Sociology*. A study of education in relation to social institutions. Considers methods of gathering data in social research, the family, problems of educational reconstruction, social relationships, and social measurements. Credit, 3 hours.

217g *Modern Practice in the Kindergarten-Primary School*. Practices, materials, and policies with emphasis on curriculum trends, methods of instruction, pupil-teacher and teacher-parent relationships. Credit, 2 hours.

218g *Diagnostic and Corrective Reading Techniques*. Reading difficulties in learning and teaching situations are investigated. Considers techniques of diagnosis and corrective procedure. Prerequisites: Ed. 201, 202, or teaching experience. Credit, 3 hours.

219g *Evaluation in the Kindergarten-Primary School*. Techniques for

understanding the young child with the purpose of adjusting the school program to his needs. Credit, 2 hours.

220g Arizona School System, Laws, and Records. The organization and legal set-up of the Arizona school system, with special reference to the work of the teacher and administrator. Credit, 2 hours.

226g Safety Education. Various phases of safety education: home, school, on-the-job, and driver education and training. Emphasis on special interests of class members. First semester. Credit, 3 hours.

228 Methods of Teaching in the Secondary School. Objectives of secondary education, methods of instruction, socialized procedures, individual differences, testing procedures, individual work in field of interest. Prerequisite: Ed. 215. Credit, 3 hours.

230 Elementary School Curriculum and Techniques. Considers curriculum factors such as contemporary life and concept, principles and scope of curriculum construction, and problems of instruction. Credit, 3 hours.

232 Introduction to Guidance. The need, objectives, prevailing practices, and the development and administration of guidance programs. Credit, 3 hours.

233 Audio-Visual Aids in Education. Principles underlying the selection and use of materials for instructional purposes. Advantages, limitations, and uses of each type of material. One hour class and 3 hours laboratory a week. Credit, 2 hours.

237g Production of Audio-Visual Aids. Making of photographs, slides, filmstrips, motion pictures, and recordings. Preparation of scripts. Technical problems of production. Prerequisite: Ed. 233. Fee, \$5.00. One hour class and 3 hours laboratory. Credit, 2 hours.

238 Extra-Curricular Activities. Types of activities, their function, importance, and relationship to the regular program of the elementary and high school. Credit, 2 hours.

245g Public Education in the United States. The evolution of the public school in the light of the many social forces that have come into conflict in the growth of our institutions. Credit, 2 hours.

250g Philosophy of Education. Study of social and educational theories. Designed to give students a perspective of life enabling them to give excellent professional services to society. Each semester. Credit, 3 hours.

260 Observation and Directed Teaching. Students seeking kindergarten-primary or elementary certification observe and teach for a half-day

session during the first or second semester of the senior year. Those seeking the secondary certificate teach one-quarter day. Class work in school management. Credit, 5 or 10 hours.

264 *4-H Club Organization and Leadership*. History, scope, plan of organization, and methods. Students organize and conduct a 4-H Club supervised by the Extension Department, University of Arizona. A certificate of proficiency is granted on completion of course. Prerequisite: approval of department head. Credit, 2 hours.

265 *Youth Organizations and Leadership*. Special youth problems, character forming organizations, juvenile problems, and community leadership. Intensive study of one organization and participation in its leadership. Fee, 50 cents. First semester. Credit, 2 hours.

266 *The School and Community Relationships*. Underlying philosophy and techniques used to bring about better relationships between the school and community. Credit, 2 hours.

300 *Seminar: Thesis Preparation and Research*. Acquaints the student with the nature of the thesis, library resources and facilities, essential techniques and skills used in research studies, and suitable research problems. Credit, 2 hours.

304 *Basic Course in Guidance*. Acquaints the student with all important aspects of a student personnel program. Required of those who have not had Ed. 232 or equivalent preparation. Credit, 2 hours.

305 *Education and Social Control*. A study of human affairs designed to give satisfactory direction to them. Considers social measurement and techniques for carrying on investigations. Credit, 4 hours.

306 *Character Education*. Problems of educating for citizenship are evaluated in the light of democratic ideals and conflicting social theories. Credit, 2 hours.

309 *The Kindergarten Movement*. Development of the kindergarten; foreign influences contributing to its establishment; early pioneers; progressive techniques in kindergarten practices. Second semester. Credit, 3 hours.

312 *Modern Elementary Curriculum Development*. An analysis of the best educational thought, practices, and trends of the elementary program. Special attention given to innovations of proven value. Credit, 2 hours.

314 *Secondary School Administration and Supervision*. Procedures and techniques in administration and supervision of the secondary school. Individual and group research projects. Credit, 2 hours.

315 *Public School Administration*. A functional approach to problems

of organization, administration and supervision. Includes observation in public schools. Credit, 2 hours.

316 *Supervision in the Elementary School.* Principles of supervision, types of supervisory programs, techniques of supervision, and evaluation of supervisory practices. Credit, 2 hours.

317 *Elementary School Administration and Supervision.* The place of the elementary school in the public school system; its internal organization; relationship of school to community; problems of the principal. Credit, 2 hours.

318 *Guidance Methods and Techniques.* Nature and use of the interview, tests, inventories, records and reports, observation, rating scales, and the case study. Course should precede Ed. 320. Credit, 2 hours.

320 *Counseling.* Concerned with the understanding and application of principles, methods, and techniques of counseling individual students effectively. Ed. 318 should precede this course. Credit, 2 hours.

323 *Audio-Visual Education.* Principles of audio visual methods of teaching. Survey of literature of field, and experience in constructing teaching units. Not open to students having credit in Ed. 233. Two classes a week and laboratory hours arranged. Credit, 2 hours.

325 *Vocational Guidance.* Origin, philosophy, principles, practices, and services of vocational guidance; its relationship to other types of guidance, to organized education, and to the student personnel program. For secondary teachers, counselors, principals, and directors of guidance. Credit, 3 hours.

326 *Educational and Occupational Information.* An appraisal of programs in secondary schools. Considers educational opportunities in higher institutions, technical institutes, trade schools, etc.; executing a job analysis program; occupational families; standard sources of data; occupational opportunities. Should be preceded by Ed. 325. Credit, 2 hours.

327 *Organization and Administration of Guidance Programs.* For those directing or preparing to direct the guidance program. Specific organizational pattern, procedures, and problems. Credit, 2 hours.

329 *Administration of Audio-Visual Aids Programs.* The qualifications and duties of the director, preparing the budget, buying equipment, handling materials, in service training, and evaluation of the program. Credit, 2 hours.

330 *Contemporary Social Movements.* Current social theories and social reconstruction. A sociological approach to the problem of education in relation to social control. Credit, 2 hours.

332 *War and Education.* Present-day trends and their impact upon established social practices and educational institutions. Study of problems in an era of power and technology in which various social philosophies are contending for control. Credit, 3 hours.

333 *Secondary School Curriculum Development.* Principles of the secondary school curriculum, methods and techniques of instruction, curriculum making programs and trends, and experimental practices. First semester. Credit, 3 hours.

334 *Directed Learning.* The principles of learning and application to the teaching learning situations of the secondary school. Emphasizes the improvement of assignments, the use of class time, and the evaluation of learning outcomes. Credit, 3 hours.

337 *Public School Finance.* Methods and problems of financing public education, current problems in school support, and the legal basis of public school finance. Credit, 2 hours.

338 *School Grounds, Buildings and Equipment.* Includes planning building programs, school plant, school furniture and equipment, maintenance, financing, and legal regulations of school construction. Credit, 2 hours.

340 *Seminar: Improvement of Teaching in the Secondary School.* Principles of teaching and their significance are taken up in light of the needs of the members of the class. Individual reports. Credit, 3 hours.

341 *Evaluation of Learning.* Essential steps in evaluating learning: (1) the discovery and formulation of objectives, and (2) the use of techniques and skills in ascertaining the extent to which pupils achieve these objectives. Credit, 2 hours.

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

Sociology

120 *Sociology.* Study of human relationships, human wants, and social institutions. Aims to discover foundations basic to a stable and progressive civilization. Each semester. Credit, 3 hours.

125 *Elementary Anthropology.* Primitive society, religion, material culture, the origin and antiquity of man and civilization, modern races, the linguistic phases of culture, and the principles of anthropology. Credit, 3 hours.

204 *Urban Sociology*. A study of contemporary city life and its effect on the individual personality and on the social organization. Rural-urban conflicts of culture. Prerequisite: Soc. 120. Credit, 3 hours.

205 *History of Social Welfare*. Methods of helping the poor from ancient times to the present. Systems of relief in Europe, England, and the United States. Credit, 3 hours.

206 *Social Anthropology*. Social organization, social institutions, and cultural diffusion; acculturation; culture and personality; the community study; selected primitive cultures. Prerequisite: Soc. 120 or 125. Credit, 3 hours.

207 *The American Indian*. Archaeology and ethnology of the American Indian with emphasis upon current, social and economic problems of the Indians of the Southwest. Prerequisite: Soc. 120. Credit, 3 hours.

212 *Introduction to Social Work*. Class discussion and field trips to help students with their relationships with others. Study of social agencies and their approach to human problems. Credit, 3 hours.

215 *Community Organization*. A study of the methods by which a co-ordinated social agency functions in the community and utilization of community resources. Credit, 3 hours.

220 *Principles of Criminology*. Causation of crime; juvenile delinquency; apprehending, convicting, and sentencing of criminals; probation and parole; penology. Prerequisite: Soc. 120. Credit, 3 hours.

225 *Modern Social Problems*. Current problems of race relations, poverty and unemployment, mental disease, mental deficiency, etc. Prerequisite: Soc. 120. Credit, 3 hours.

Department of English

MYERS (Head of Department), BUCKLEY, BURKE, BYERS, CONLIN, DAVIES, FIELDING, GIRDLER, HOPKINS, MCSLOY, MORRIS, OSENBURG, PILCHER, PLUMMER, PORTNOFF, SCHILLING, SOUTHERN, TURNER, WILLSON, YATES, ZIMMERMAN.

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 Specializing in English. Prospective teachers following either one of these curriculums will find Speech 230, 240 and 257 especially helpful as professional training. They may also wish to take other English and speech courses for personal development.

For Students Specializing in English. Students wishing a limited number of courses may choose any for which they have the prerequisites. Those wishing a major teaching field, see below under secondary curriculum.

Secondary Curriculum.

This department offers major teaching fields in English and in speech and dramatics as outlined below. To complete either of these, at least 45 semester hours in the field must be completed in the first four years. At least 20 of these hours must be upper division. Candidates for the master's degree planning to teach English, speech, or dramatics in secondary schools should complete additional courses in these subjects during the fifth year.

Major Teaching Field in English. First year, Eng. 101 and 102. Second year, Eng. 103, 104, 128, 151, and 152; Speech 110; Hist. 105 and 106. Third year, Eng. 221, 222, 232, or Ed. 228, and 6 hours of upper division English electives. Fourth year, Eng. 231, 252, or 254, and 2 or 3 hours of upper division English electives.

Major Teaching Field in Speech and Dramatics. First year, Speech 110 and 121. Second year, Speech 119, 127, 170, Eng. 128. Third year, Speech 220, 230, 235, Eng. 252. Fourth year, Speech 257, 260, and Eng. 254. Plus 14 additional hours during the four years selected from the following courses: Eng. 203, 205, 206, 217, 218, Psych. 240, and any other courses in speech.

Minor teaching fields are offered in English, journalism, speech, and dramatics.

Minor Teaching Field in English. Twenty-two hours are required including Speech 110; Eng. 101, 102, 103, 104, 152, and 6 hours of upper division work.

Minor Teaching Field in Journalism. Eng. 101, 102, 128, 130, 140, 141, 243.

Minor Teaching Field in Speech. Speech 110, 121, 127, 170, 220, 257, 260.

Minor Teaching Field in Dramatics. Speech 110, 119, 121, 122, 230, 235.

Arts and Sciences Curriculum

Degree. Students completing the Arts and Sciences Curriculum with an area of concentration in English, Journalism, Speech or Dramatics receive the degree of Bachelor of Arts.

Generalization Requirements.

Students seeking the B.A. degree must meet the generalization requirements listed on pages 74-75 of the catalog.

Areas of Concentration.

English. The area of concentration in English requires a minimum of 49 semester hours in addition to the generalization requirements.

Required courses. English 128, 151, 152; Speech 110; History 105, 106; 8 hours of foreign language above the generalization requirements.

Group electives. Seventeen semester hours must be selected from the following groups with at least one course in each group. Group I, Eng. 253, 254. Group II, Eng. 211, 212, 221, 222. Group III, Eng. 201, 203, 213, 214, 215, 216, 217, 218, 226. Group IV, Eng. 205, 206, 223, 244. Group V, Speech 121, 122, 127, 172, 220, 260. The remaining seven hours may be chosen from the complete departmental offerings. With the consent of the adviser, up to three hours of courses in related fields may be substituted for English courses.

Journalism. The area of concentration in Journalism requires a minimum of 49 semester hours in addition to the generalization requirements.

Required courses in Journalism. Journalism 130, 140, 141, 245, 250, 251, and 2 hours of Journalism 290.

Required courses in related fields. Speech 110, Eng. 128, 151, 152, and six units of upper division literature; B.A. 132, P.E. 101; Psych. 225. Optional courses. The remaining five units may be selected from the following courses: Jour. 142, 240, 243, 246, 299 (up to 3 additional hours), and Eng. 204.

Choices from the generalization requirements. It is strongly urged that the following courses be selected in fulfilling the generalization requirements. Art 100; B.A. 131, Eng. 252; Psych. 100; S.S. 102; and Soc. 120.

Speech. The area of concentration in Speech requires a minimum of 49 hours in addition to the generalization requirements.

Required courses in Speech. Spch. 110, 121, 129, 170, 220, 257, and 260, and 8 hours of upper division speech electives.

Required courses in English. Eng. 128, 151, 152, and six units of upper division literature.

Optional courses. The remaining 9 units may be selected from other courses in Speech and Dramatics and Eng. 252 and 254.

Dramatics. The area of concentration in Dramatics requires a minimum of 49 semester hours in addition to the generalization requirements. Required courses in Speech and Dramatics. Speech 110, 119, 121, 122, 170, 220, 235, 260.

Required courses in English. Eng. 128, 151, 152, and six units of upper division literature.

Optional courses. The remaining fifteen units may be selected from other courses in Speech and Dramatics, and from the following courses in English: Eng. 203, 205, 206, 217, 218, 252, and 254.

Description of Courses

Literature and Language

101 *First Year English.* Narrative and descriptive writing; emphasis on paragraph structure, correctness in English fundamentals, exactness and concreteness of statement; dictionary and library practice; intensive and extensive reading. Credit, 3 hours.

102 *First Year English.* Expository writing; emphasis on organizing and unifying long papers, improvement in style, expansion of vocabulary. Introduction to word study; practice in research, including the writing of a model term paper. Intensive and extensive reading. Prerequisite: Eng. 101. Credit, 3 hours.

103, 104 *Directed Reading for English Majors and Minors.* Supervised reading with a weekly individual conference with instructor. Credit, 1 hour each.

128 *Advanced Composition.* For students interested in further training in organization and expression of ideas. Factual and imaginative discourse are treated. Prerequisite: Eng. 102. Credit, 3 hours.

151 *Survey of English Literature.* English literature considered chronologically against the social and political background from Anglo-Saxon times to the end of the eighteenth century. Required of those specializing in English. Prerequisite: Eng. 102. Credit, 3 hours.

152 *Survey of English Literature.* Nineteenth century literature. The major writers in relation to the aesthetic, social, and economic trends of the century. Required of those specializing in English. Prerequisite: Eng. 102. 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. Prerequisite: Eng. 101. Credit, 3 hours.

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 those specializing in English. Prerequisite: Eng. 102. Credit, 3 hours.

201g *History of the Novel*. The origins of prose fiction, the novel in England and America, with attention to significant examples of foreign literature. Analysis of typical examples and reading of outside assignments. Prerequisite: Eng. 152. Credit, 3 hours. Not offered 1949-1950.

203 *History of the Drama*. The English drama from the Middle Ages to the present with selective examples of foreign influences. Reading of representative plays of each period. Prerequisite: Eng. 152. Credit, 3 hours.

205 *Shakespeare: The Tragedies*. Critical study of five plays. An introduction to the problems of Shakespearean scholarship. Prerequisite: Eng. 151. Credit, 3 hours.

206 *Shakespeare: The Comedies*. A rapid reading of all the comedies. Studies of the comic spirit and Shakespeare's comic genius. Prerequisite: Eng. 151. Credit, 3 hours.

211g *Nineteenth Century Poetry: Romantic Period*. Study of and readings in the poetry of Wordsworth, Coleridge, Shelley, Keats, Byron. Prerequisite: Eng. 152. Credit, 3 hours.

212g *Nineteenth Century Poetry: Victorian Period*. The poetry of the second half of the century. Special study of Tennyson, Browning, Arnold. Prerequisite: Eng. 152. Credit, 3 hours.

213 *Modern Fiction*. A study of the modern novel beginning with Meredith. Prerequisite: Eng. 152. Credit, 3 hours. Not offered 1949-1950.

214 *Contemporary Fiction*. A study of important contemporary writers; their careers and distinctive traits, with particular attention to the relationship of their ideas with present-day problems. Prerequisite: Eng. 152. Second semester. Credit, 3 hours.

215 *Contemporary British Poetry*. British poetry of the twentieth century; techniques, aims, and significance. Prerequisite: Eng. 152. Credit, 3 hours. Not offered 1949-1950.

216 *Contemporary American Poetry*. American poetry of the twentieth century; techniques, aims, and significance. Prerequisite: Eng. 152. Credit, 3 hours. Not offered 1949-1950.

217 *Modern Drama*. The chief dramatic writers of the generation preceding World War I, with special attention to experimental techniques. Prerequisite: Eng. 152. Second semester. Credit, 3 hours.

218 *Contemporary American Drama*. A study of the American Drama since World War I, with special attention to experimental techniques. Prerequisite: Eng. 152. Second semester. Credit, 3 hours.

221 *American Literature*. From colonial times to the Civil War, including the growth of nationalism and the rise of the New England school. Open to those specializing in other departments who have junior standing. Prerequisite: Eng 102. Credit, 3 hours.

222 *American Literature*. From Whitman to the present. The influence of westward expansion, the growth of regionalism, the literature of social protest. Open to those specializing in other departments who have junior standing. Prerequisite: Eng. 102. Credit, 3 hours.

223g *Milton*. The life of Milton, his relation to the literary and social background of his period, and textual study of his chief works. Prerequisite: Eng. 151. Credit, 3 hours. Not offered 1949-1950.

226 *Short Story*. The development of the short story as a literary form; analysis of its technique through study of examples from the work of representative authors. Prerequisite: Eng. 152. Second semester. 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 stressed. Prerequisites: Eng. 152, 232, Ed. 215. First semester. Credit, 3 hours.

232 *Methods of Teaching English in the Junior and Senior High School*. Those specializing in English should substitute for Ed. 228. Preparation of units in high school literature and composition, methods of teaching, and construction of measurement devices. Prerequisites: Eng. 152, Ed. 215. Second semester. Credit, 3 hours.

234 *Creative Writing*. Writing laboratory. Lectures and conferences dealing with the various forms of imaginative writing. Prerequisite: Eng. 128. Credit, 3 hours.

244g *Chaucer*. A study of Chaucer's language, poetry, and intellectual background. Prerequisite: Eng. 151. Credit, 3 hours. Not offered 1949-1950.

252 *Introduction to Semantics*. Nature of meaning and the function of language, designed to improve accuracy of communication and to provide a technique for analyzing false or misleading statements. Credit, 2 hours.

253g *History of the English Language*. Development of the lan-

guage from the earliest times to the modern period. Prerequisites: Eng. 128, 151. Credit, 3 hours.

264g *Current English Usage*. Recent changes and current trends in the language, with emphasis on American English and the factual bases of grammar. Prerequisites: Eng. 128, 151. Credit, 3 hours.

261 *Professional Writing*. Lectures and conferences concerning techniques of writing for publication. Prerequisites: Eng. 128, 234, or consent of instructor. Credit, 3 hours.

262 *Professional Writing*. Continuation of Eng. 261. Prerequisite: Eng. 261.

Speech and Dramatics

Speech 110 *Elements of Speech*. Diagnosis of speech needs, with clinical service for those who need it. The minimum essentials of public speaking, the scientific attitude toward problems of pronunciation, principles of good conversation. Fee, \$1.00. Credit, 2 hours.

119 *Drama Techniques*. A study of the various types of drama with reference to their theatric representation. Credit, 3 hours.

121 *Dramatic Interpretation*. Principles of oral interpretation. Readings and selections for practice. Sample plays studied for characterization and interpretation. Credit, 2 hours.

122 *Acting*. Reading in theory; laboratory projects. Prerequisites: Speech 110, 119. Credit, 3 hours.

127 *Principles of Argumentation*. Construction and delivery of various types of argumentative speeches. Essential to students engaging in intercollegiate debate. Prerequisite: Speech 110. Credit, 2 hours.

129 *Principles and Methods of Discussion*. The use of reflective thinking in learning and policy determining groups. The panel, dialogue, symposium, and forum lecture. Prerequisite: Speech 110. Credit, 2 hours.

170 *Radio Speech*. A background for greater listening enjoyment. Practice in microphone delivery, script writing, and acting. Auditions given for participation in radio dramatizations over local stations. Prerequisite: Speech 110. Two hours lecture and 3 hours laboratory a week. Fee, \$1.00. Credit, 3 hours.

220 *Public Speaking*. Organization and delivery of various types of speeches. Emphasis on types which occur most often in everyday life. Prerequisite: Speech 110. Second semester. Credit, 2 hours.

227 *Intercollegiate Debate*. Preparing for and participation in intercollegiate debates. Prerequisites: Speech 110, 127. Credit, 2 hours.

228 *Intercollegiate Debate*. Continuation of Speech 227. Prerequisite: Speech 227. Credit, 2 hours.

229 *Intercollegiate Debate*. Continuation of Speech 228. Prerequisite: Speech 228. Credit, 2 hours.

230 *Creative Dramatics*. Methods of making a play from a lesson or story, helping children to improvise their own roles; selection of literature and subject matter suitable for play making. Prerequisites: Speech 110, Ed. 204, 214, or 215. Credit, 3 hours.

235 *Play Production*. Problems connected with staging of plays in elementary and secondary schools. Prerequisites: Speech 110, 119. Fee, 50c. Credit, 3 hours.

237 *Play Writing*. Writing of one-act and full length plays. Prerequisites: Eng. 234, Speech 235, or consent of instructor. Credit, 2 hours.

238 *Radio Script Writing*. Principles of writing for radio and practice of the composition of radio scripts. Prerequisites: Speech 170, Eng. 235, or consent of instructor. Credit, 2 hours.

240 *Children's Theatre*. Formal dramatics for children. The selection and production of plays and pageants suitable for children through the elementary grades. Prerequisites: Speech 110, Ed. 204 or 214. Credit, 2 hours.

257g *Speech Correction*. Cause and correction of disorders of speech. Clinical practice in the College Speech Correction Clinic. Prerequisite: Speech 110. Three times a week, and 1 hour in clinic. Credit, 3 hours.

258g *Advanced Speech Correction*. A clinical laboratory course for practice in correction of speech defects. Seminar for extensive acquaintanceship with literature in the field. Prerequisite: Speech 257g. One hour lecture, 2 hours clinic a week. Credit, 2 hours.

259g *Clinical Practice in Speech Correction*. Purely a laboratory course consisting of clinical practice in the College Speech Clinic. Prerequisites: Speech 257, 258. Credit, 1 3 hours.

260 *Phonetics*. Study of phonetics, including phonetic symbols, the production, the general characteristics and the application of the sounds of American speech to the acquisition and teaching of good pronunciation. Prerequisite: Speech 110. Credit, 2 hours.

Journalism

130 *Introduction to Journalism*. 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. 2 lectures, 2 laboratory hours. Credit, 3 hours.

140 *Journalism: Reporting.* A study and practice in the writing of all types of stories covered by a reporter. Covers problems confronted by the adviser of high school publications. Prerequisite: Jour. 130. Fee, \$1.00. 1 lecture, 4 laboratory hours. Credit, 3 hours.

141 *Reporting.* Continuation of Jour. 140. Main types and sources of news; investigation and writing of news; work of the reporter. Prerequisite: Jour. 140. Fee, \$1.00. 1 lecture, 4 laboratory hours. Second semester. Credit, 3 hours.

142 *History of Journalism.* Development of American journalism from colonial times to the present. Projecting the press as an institution against a background of the history of the nation. Prerequisite: Jour. 130. Second semester. Credit, 2 hours.

241 *Newspaper Law and Courts.* The rights and duties of the press, the legal limits and liberty of the press; study of libel, privilege, constitutional guarantees, copyright, contempts; the machinery of court reporting. Prerequisite: Jour. 141. Fee, \$1.00. First semester. Credit, 3 hours.

242 *News Comment and Opinion.* The byline story, interpretative article, editorial, and general field of newspaper policy and fact. Prerequisite: Jour. 141. First semester. Credit, 2 hours.

243 *Copy Reading and Editing.* Intensive practice in copy reading and headline writing; development of clear, concise English. Accuracy and speed of handling of local, syndicated and wire service copy. Special attention to judgment in news value, selection and make-up. Prerequisite: Jour. 141. Credit, 3 hours.

246 *The Longer Forms.* A study of the news weekly, journalistic magazine article and the journalistic book. Prerequisite: Jour. 242. Second semester. Credit, 3 hours.

250 *Staff Work.* An advanced laboratory course in editing a complete newspaper with particular reference to the production of the State Press. Prerequisite: Jour. 243. Credit, 2 hours.

251 *News Problems and Policies.* Advanced reporting with emphasis upon major difficulties encountered and editorial decisions required in the writing, handling and publishing of news. Prerequisite: Jour. 242. First semester. Credit, 2 hours.

299 *Special Assignment.* Selection and performance of a major project or projects on an individual basis. Prerequisites: Jour. 241, 242, 250. Second semester. Credit, 2 to 5 hours.

Department of Foreign Languages

WILSON (Acting Head of Department), D'ORSSAUD, ESCUDERO, HATCH

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 Specializing in Language. 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 Specializing in Language. Students wishing a limited number of courses will choose them with the advice of the head of the department. Those wishing a major teaching field, see below under secondary curriculum.

The Secondary Curriculum.

Major Teaching Field in Spanish. The field consists of 45 semester hours of work of which 15 hours should be in upper division courses. The following courses are required: Span. 101, 102, 103, 104, 203, 204, 205, 206, 220, 224, Eng. 151.

Minor Teaching Field in Spanish. The following courses or their equivalents are required: Span. 101, 102, 103, 104, or 103, 104, 203, 204.

Minor Teaching Field in French. The following courses are required: Fr. 101, 102, 103, 104.

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, pages 74, 75 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; Fr. 103, 104; Ger. 103, 104; Hist. 116, 120, 205, 207; Lat. 101, 102; Rus. 101, 102; Span. 151.

Description of Courses

French.

Fr. 101 *Elementary French.* Grammar, reading, composition, and conversation for beginners. First semester. Credit, 4 hours.

102 *Elementary French.* Emphasis on reading and conversation. Prerequisite: Fr. 101. Second semester. Credit, 4 hours.

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

104 *Advanced French.* Emphasis on reading and conversation. Prerequisite: Fr. 103. Second semester. Credit, 4 hours.

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

121 *French Conversation.* Continuation of Fr. 120. Prerequisite: Fr. 120. Credit, 2 hours.

German.

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

102 *Elementary German.* Continuation of Ger. 101, with emphasis on reading. Prerequisite: Ger. 101. Second semester. Credit, 4 hours.

103 *Intermediate German.* Reading of modern novels, plays and short stories, composition and conversation. Prerequisite: Ger. 102. Credit, 4 hours.

104 *Advanced German.* Similar to Ger. 103 with greater emphasis upon rapid reading and oral expression. Outside reading in student's field of interest. Prerequisite: Ger. 103. Credit, 4 hours.

Latin.

Lat. 101 *Elementary Latin.* A beginner's course. Emphasizes vocabulary and derivations rather than grammar. First semester. Credit, 4 hours.

102 *Elementary Latin.* Continuation of Lat. 101 with use of a simple Latin reader. Prerequisite: Lat. 101. Second semester. Credit, 4 hours.

Russian.

Rus. 101 *Elementary Russian.* Grammar, reading and conversation. Credit, 4 hours.

102 *Elementary Russian.* Continuation of Rus. 101. Emphasis on reading and conversation. Prerequisite: Rus. 101. Credit, 4 hours.

103 *Intermediate Russian.* Reading of modern novels, plays and short stories. Composition and conversation. Prerequisite: Rus. 102. Credit, 4 hours.

104 *Advanced Russian.* Similar to Rus. 103 with greater emphasis upon rapid reading and oral expression. Outside reading in the student's field of interest. Prerequisite: Rus. 103. Credit, 4 hours.

Spanish Language and Literature.

Span. 101 *Elementary Spanish.* A knowledge of the fundamentals of pronunciation and grammar. Beginners only. First semester. Credit, 4 hours.

102 *Elementary Spanish.* The reading of several elementary texts. Prerequisite: Span. 101. Second semester. Credit, 4 hours.

103 *Intermediate Spanish.* A review of grammar and reading stressing vocabulary building and accuracy of expression. Prerequisite: Span. 102. Credit, 4 hours.

104 *Advanced Spanish.* Similar to Span. 103 with greater emphasis upon rapid reading and oral expression. Prerequisite: Span. 103. Credit, 4 hours.

120 *Spanish Conversation.* Conversation to develop fluency and accuracy. Oral and written reports based on articles in current periodicals. Prerequisites: Span. 101, 102. Credit, 2 hours.

121 *Spanish Conversation.* Continuation of Span. 120. Prerequisite: Span. 120. Credit, 2 hours.

151 *Commercial Spanish.* Develops ability in Spanish commercial vocabulary and business correspondence. Information regarding Spanish-American exports, imports and industry. Prerequisites: Span. 101, 102. Credit, 2 hours. Offered summer only.

203 *Advanced Spanish Composition.* Translating English prose into Spanish, and original composition. Grammar review through writing. Collateral reading of modern short stories, novels and plays. Conducted in Spanish. Prerequisite: Span. 104. Credit, 3 hours.

204 *Advanced Spanish Composition.* Continuation of 203. Prerequisite: Span. 203. Credit, 3 hours.

205 *Survey of Spanish Literature.* Characteristics of the Middle Ages, Renaissance and the Golden Age, the evolution of Spanish thought and literary ideals. Conducted in Spanish. Prerequisite: Span. 204. Credit, 3 hours.

206 *Survey of Spanish Literature.* Continuation of 205. Prerequisite: Span. 205. Credit, 3 hours.

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

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

220 *Teaching of Spanish.* For seniors specializing in Spanish and for teachers of Spanish. Methods of presenting the subject matter in more attractive and practical ways. Prerequisites: Span. 103, 104, 203, 204, Ed. 215. Credit, 2 hours.

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

227g *The Regional Novel.* The chief characteristics of the Spanish regional novel. Credit, 3 hours.

Department of Home Economics

RANNELLS (Head of Department), ELLSWORTH, ESSIG, KAGY, NORTON

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 who wish to prepare for vocations in home economics other than teaching or homemaking. (6) 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 Specializing in Home Economics. It is suggested that prospective teachers may profitably elect some courses from the following: H. Ec. 101, 102, 103, 104, 106, 107, 110, 202, 203, 207, 209, 215, 217, 219, 222, 226.

For students Specializing in Home Economics. Students wishing special work or the special certificate in home economics should select H. Ec. 101, 102, 105 or 106, 107 or 108, 203, 208, 209, 217, and such other courses as fit their individual interests and abilities.

The Secondary Curriculum.

The Major Teaching Field in Home Economics. To complete a major teaching field in home economics at least 45 semester hours of work must be completed in the first four years and not less than 18 of the total shall be upper division. Candidates for the master's degree planning to teach home economics in the secondary schools should complete additional courses in the fifth year. The vocational certificate may be earned in four years by meeting the following requirements: H.Ec. 100, 101, 102, 104, 105, 108, 202, 203, 206, 207, 208, 209, 211, 212, 214, 215, 217, Zool. 172, Art 102, Chem. 110, 180.

Minor Teaching Field in Home Economics. This field requires 15 semester hours. H.Ec. 106, 107 are recommended. The remaining courses may be chosen with the approval of the head of the department.

Arts and Sciences Curriculum

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 pages 74, 75 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 100, Chem. 110, and G.S. 11). The following 25 semester hours are required: H.Ec. 101, 102, 105, 108, 203, 209, 214, 215, 217, and 12 hours must be selected from the following optional courses: H.Ec. 100, 104, 110, 202, 206, 207, 211, 212, 219, 226.

Preprofessional and Professional Curriculums

You will find an outline of these curriculums giving any requirements made by this department on pages 76-84 of the catalog.

Description of Courses

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

101 *Elementary Nutrition.* Principles of nutrition, diet, food in its relation to health. Open to men and women. Each semester. Credit, 2 hours.

102 *Clothing Selection.* The selection of clothing with consideration of materials, cost, style, design, the individual, and the occasion. Each semester. Credit, 2 hours.

103 *Introduction to Family Living.* Deals with children, establishment of a home, management of family life, finances, food, clothing, and art in the home. Fee, \$1.00. Credit, 3 hours.

104 *Home Nursing.* Information on health for the family, care of the sick, the mother through pregnancy and childbirth, and infant care. Second semester. Credit, 1 hour.

105 *Applied Food Principles.* Principles of cookery and nutritive facts involved. Open only to those specializing in the department. Fee, \$5.00. First semester, 6 hours a week. Credit, 3 hours.

106 *Food Preparation and Meal Service.* Fundamental processes in food cookery, meal planning and table service. Fee, \$5.00. Each semester, 6 hours a week. Credit, 3 hours.

107 *Clothing Construction.* For students not specializing in home economics. Selection and construction of inexpensive garments. Emphasis on fundamental processes. Each semester, 6 hours a week. Credit, 3 hours.

108 *Clothing Construction.* Principles of dressmaking construction of inexpensive garments. Experience in the selection of materials and design. Open only to those specializing in the department. Second semester, 6 hours a week. Credit, 3 hours.

110 *Household Equipment.* Construction, selection and use of all types of household equipment. First semester. Credit, 3 hours.

202 *Problems of the Consumer.* Problems, wants, needs, and practices of the consumer buyer of foods, textiles, clothing, and home equipment. Influence of advertising, retail stores, and government agencies. Fee, 50 cents. Second semester. Credit, 2 hours.

203 *Child Development.* Physical, mental, emotional and social development of the young child. Observation in nursery school. Fee, 50 cents. Open to men and women. Each semester, 4 times a week. Credit, 3 hours.

206 *Food for the Family.* The production, economic selection, and nutritive value of foods, types of meals, and table service. Practice in planning, preparing and serving meals. Open only to those specializing in the department. Prerequisites: H.Ec. 101, 105. Fee, \$3.00. Second semester, 6 hours a week. Credit, 3 hours.

207g *Nursery School Education.* Evaluation, discussion and application of educational concepts with particular reference to the pre-school child. Opportunity for assisting in nursery school. Prerequisites: H.Ec. 203 or Psych. 234. Fee, \$1.00. Each semester, 6 hours a week. Credit, 3 hours.

208 *Home Economics Education.* Philosophy, content and methods of teaching home economics in elementary and secondary schools. Prerequisite for those under the Secondary Curriculum: Ed. 215. Fee, \$1.00. Credit, 3 hours.

209 *Family Relationships*. Understanding of family life and current problems including preparation for marriage. Open to men and women. Second semester. Credit, 3 hours.

211 *Clothing: Tailoring*. Wool and silk construction problems, advanced fitting problems, good style and design. Prerequisites: H.Ec. 102, 108. First semester, 6 hours a week. Credit, 3 hours.

212g *Advanced Nutrition*. Special problems in diet and nutrition. Prerequisites: H.Ec. 101, Chem. 110, 180. Fee, \$1.00. Second semester. Credit, 3 hours.

213g *Clothing: Pattern Designing*. Fundamental principles in designing, cutting, and fitting individualized garments. Flat patterns used. Prerequisites: H.Ec. 102, 107 or 108. Fee, \$2.00. Second semester, 6 hours a week. Credit, 3 hours.

214 *Home Management House*. Students live in Home Management House for a six-week period, and carry on all duties involved in homemaking. Open to seniors specializing in home economics. Prerequisites: H.Ec. 104, 203, 206, 217. Fee, \$5.00 and board and room at regular college rate. Second semester. Credit, 3 hours.

215 *Home Furnishing*. 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.

217 *Home Management*. Goals of homemaking, standards of living, budgeting of time and income, household accounting, and selection, care, efficient arrangement, and use of the house and equipment. Fee, 50 cents. First semester. Credit, 3 hours.

219 *Textiles*. Textile fibers, their construction, finish, sources, characteristics, identification, and uses. Fee, 50 cents. First semester. Credit, 2 hours.

224g *Evaluation in Home Economics Education*. Newer concepts concerning evaluation and testing instruments and techniques in elementary and secondary schools. Prerequisite: H.Ec. 208. Fee, 50 cents. Credit, 2 hours. Offered summers only.

226g *The Teaching of Art Related to the Home*. The application of principles of art to problems of daily living. Use made of pertinent illustrative material. Opportunity provided to participate in teaching projects. Fee, 50 cents. Credit, 2 hours.

227g *The Teaching of Clothing and Textiles*. For teachers of clothing selection, construction, and care. Use of equipment, motivation and standards of work, individual illustrative material, evaluation. Students bring sewing equipment including pieces of fabric. Pre-

quisite: H.Ec. 208. Fee, \$1.00. Credit, 2 hours. Offered summers only.

243g *Recent Developments in Nutrition*. A study of recent research in nutrition with view of finding practical applications. Prerequisite: H.Ec. 101. Credit, 2 hours.

Ed. 260 *Directed Teaching*. Students teach one-half semester under supervision of the department. Prerequisite or parallel: H.Ec. 208. Each semester, every afternoon. Time arranged equivalent to one half day, daily. Credit, 5 hours.

Department of Industrial Arts

NEEB (Head of Department), MERRITT, CAVALLIERE, KEITH, ANDERSON,
ENSIGN, GOODWIN.

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 Curriculums

Kindergarten-Primary and Elementary Curriculum.

For Students Not Specializing in Industrial Arts. 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 Specializing in Industrial Arts. Students desiring to specialize in industrial arts may take a minimum of 30 semester hours of work including 6 hours each in four 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 wishing the regular major or minor teaching field will follow the secondary curriculum outline.

The Secondary Curriculum.

Major Teaching Field in Industrial Arts. For students planning to teach in secondary schools, a minimum of 45 semester hours of I.A. courses are required, including I.A. 109, 211 and 212. A minimum of 12 hours of work is required in each of two of the following divisions of the department: building and construction, electricity and radio, mechanics, drafting and aeronautics, including I.A. 109, 211 and 212. In each case half of these semester hours should be in upper division courses.

Minor Teaching Field in Industrial Arts. A minimum of 18 semester hours of work is required including I.A. 211, 212.

Arts and Sciences Curriculums

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 commercial activities. A minimum of 47 semester hours in industrial arts and technical subjects is required of all students taking an area of concentration in industrial arts.

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 pages 74, 75 of the catalog. In addition they must complete the work in the area of concentration as outlined below.

The 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. 105, 134, 145, 154, 164, 203, 207, 208, 217, 218, 224, 245, 258, 270, 291, 292.

Emphasis on Electronics. I.A. 115, 116, 119, 120, 123, 127, 154, 203, 205, 215, 216, 219, 251.

Emphasis on Mechanics. I.A. 101, 104, 107, 111, 112, 145, 157 160, 214, 219, 223, 227, 228, 231, 261.

Emphasis on Aeronautics. I.A. 131, 132, 135, 200, 204.

Emphasis on Drafting. I.A. 103, 105, 106, 113, 124, 125, 145, 155, 156, 160, 201, 202, 245, 270, 276, 277, 278, 291, 292.

Two-Year Technical Curriculums

Students who do not wish to graduate with either the B.A. or B.S. degree, and who desire to secure specialized training on a college level in the industrial activities to enable them to participate immediately in industrial pursuits may choose one of the following two-year courses: (1) Aeronautics, (2) Architectural Drafting, (3) Building and Construction, (4) Electronics, (5) Industrial Drafting, and (6) Mechanics.

Description of Courses

I.A. 100 *Elementary Electricity*. Theory and practical application of direct and alternating current circuits. Prerequisite for all electrical and radio courses. Fee, \$6.00. Credit, 3 hours.

101 *Auto Ignition*. Prepares for commercial shop practice, and includes storage batteries, ignition coils, distributors, lighting systems, etc. Machine shop practice. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

103 *Mechanical Drawing*. Elements of orthographic projection. Fee, \$3.00. Two lectures, four hours laboratory. Credit, 3 hours.

104 *Auto Mechanics*. General repair of automobiles; complete overhaul of gasoline engines. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.

105 *Architectural Drawing*. For students preparing to teach or for drafting and engineering work. Fee, \$3.00. Two lectures, four hours laboratory. Credit, 3 hours.

106 *Architectural Drawing*. Complete plans and estimates of materials for a two-story house. Prerequisite: I.A. 105. Fee, \$3.00. Two lectures, four hours laboratory. Credit, 3 hours.

107 *Forge*. Elements of forging and blacksmithing, drawing, bending, upsetting, welding, casehardening, tempering, and allied topics. Fee, \$6.00. One hour lecture, 6 hours laboratory. Credit, 3 hours.

109 *Calculations*. Fundamental arithmetical processes applied to shop problems. Use of slide rule. Credit, 3 hours.

110 *Blue Print Reading*. Study of blue prints and symbols used in building and construction, machine shops, etc. Fee, \$2.00. Credit, 2 hours.

111 *Machine Shop*. Filing, drilling, turning, and polishing with hand tools, and general use of machines. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

112 *Machine Shop*. Making of projects using the complete machine equipment of the department. Fee, \$6.00. Prerequisite: I.A. 111. Two lectures, 4 hours laboratory. Credit, 3 hours.

113 *Engineering Drawing*. Orthographic projections, lettering, tracing, and blue printing. Prerequisite: One year high school drawing, or I.A. 103. Fee, \$3.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

115 *Fundamentals of Radio*. Basic theory and practical application of radio, including tubes, power supplies, oscillators, detectors. Fee, \$6.00. Two lectures, 4 hours laboratory. Prerequisite: I.A. 100. Credit, 3 hours.

116 *Transmitter and Receiver Theory*. A study of oscillators, amplifiers, modulators, receivers, transmission lines, antennae, and propagation. Prerequisites: I.A. 100, 115. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

119 *Industrial Electronics*. The theory and application of electronics to the industrial field. Fee, \$6.00. One lecture, 3 hours laboratory. Prerequisite: I.A. 100. Credit, 2 hours.

120 *Principles of Vacuum Tubes*. Principles, construction and operation of various types of tubes, and application in electronic circuits. Fee, \$6.00. Two lectures, 4 hours laboratory. Prerequisite: I.A. 100. Credit, 3 hours.

121 *Wood Work*. Basic types of furniture construction and repair suitable for use in school shops. No machine work. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

122 *Cabinet Making*. Principles of furniture construction, and correct use of hand tools and machines. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

123 *Toy Construction*. Making and use of patterns and figures in constructing toys, children's furniture, and small projects. Individual projects. Fee, \$6.00. Credit, 3 hours.

124 *Descriptive Geometry*. Problems in warped surfaces and intersections of solids. Prerequisite: I.A. 113. Fee, \$3.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

125 *Descriptive Geometry*. Continuation of I. A. 124 with emphasis on shades and shadows. Prerequisites: I. A. 105, 106, and 124. Fee, \$3.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

127 *Aircraft Radio*. A study of radio used in commercial and private planes and ground installations, including questions and answers for the restricted radio telephone permit. Fee, \$6.00. Two lectures, 4 hours laboratory. Prerequisites: I.A. 100, 115. Credit, 3 hours.

131 *Aircraft Engines*. Disassembly and assembly of aircraft engines including complete top overhaul. Timing of engines, synchronizing magnetos, carburetion, ignition and oil systems. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.

132 *Airplane Mechanics*. Types of wood rib construction, use of power sewing machine, covering, doping and painting, riveting, and uses of metals for aircraft construction. Fee, \$6.00. One lecture and 6 hours laboratory. Credit, 3 hours.

133 *Plastics*. Practical uses of plastics and their uses for school work shops and hobby shops. Fee, \$10.00. Six hours a week. Credit, 3 hours.

134 *Materials of Construction*. A study of cement and concrete mixes, stucco, plaster materials, brick and concrete block work, roofing materials, lumber, wood, preservatives, paints and varnishes. Prerequisites: I.A. 103 or 105. Fee, \$4.00. Credit, 2 hours.

136 *Upholstery*. Selection of fabrics and materials. Practice in the various craft processes used. Construction of necessary frames and bases. Design of jigs. Use of hand and power tools. Wood finishing. Prerequisite: I.A. 122. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

141 *Architectural Sketching and Rendering*. Design of buildings and structural details in conformity with landscape settings, including template layout of premises. Prerequisite: I.A. 106. Fee, \$3.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

145 *Elementary Surveying*. Care, adjustment and use of surveying instruments, and computations. One lecture, 6 hours of laboratory. Fee, \$6.00. Credit, 3 hours.

151 *Broadening and Finding*. Consists of model work, boats, steam engines, electrical motors, and special problems in woodworking, machine shop, radio, or electricity. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.

154 *House Wiring*. Installation of lighting circuits, underwriters' regulations, conduit work, and estimation of cost. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

- 155 *Mechanisms*. Study and design of linkages, gears, cams, screws and other machine elements with the relative motions of machine parts. Prerequisite: I.A. 124. Fee, \$3.00. Two lectures, 4 hours laboratory. Credit, 3 hours.
- 156 *Machine Design*. Such topics as shafts, bearings, pulleys, belts, clutches, standard machine parts and fastenings. Prerequisite: I.A. 155. Fee, \$3.00. Two lectures, 4 hours laboratory. Credit, 3 hours.
157. *Jigs and Fixtures*. Design and construction of various devices that facilitate shop production in quantities. Fee, \$6.00. Credit, 3 hours.
- 160 *Sheet Metal Work*. Laying out and cutting of sheet metal; soldering, riveting; projects including utensils and toys. Prerequisite: I.A. 113. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.
- 163 *Wood Turning*. Drills in spindle, face plate, and chuck work, with practice in finishing and polishing. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.
- 164 *Patternmaking*. Use and operation of woodworking machinery. Study of drafts, shrinkage, finish, warp and shakes. Making patterns, molds and castings. One hour lecture, 6 hours laboratory. Fee, \$6.00. Credit, 3 hours.
- 179 *Welding*. Oxygen acetylene welding. Various types of welds, laying, use of fluxes. Fee, \$20.00. 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. Fee, \$4.00. Flight instruction costs are extra. Four times a week. Credit, 4 hours.
- 201 *Architectural Drawing*. The best classical elements in architecture, and the fundamentals of design. Prerequisites: I.A. 125. Fee, \$3.00. Two lectures, 4 hours laboratory. Credit, 3 hours.
- 202 *Architectural Drawing*. Problems involving a study of the principles of architectural composition. Prerequisite: I.A. 201. Fee, \$3.00. Two lectures, 4 hours laboratory. Credit, 3 hours.
- 203 *Direct Current Electricity*. Direct current circuits, machinery, measurement, magnetism, and allied subjects. Emphasis on installation, operation, and maintenance of equipment. Fee, \$6.00. Two lectures, 4 hours laboratory. Prerequisite: I.A. 100. Credit, 3 hours.

204 *The Secondary Ground School Course*. A minimum of 128 hours in the following: Aerodynamics, 32 hours; Navigation, 48 hours; Powerplants, 48 hours. Prerequisite: I.A. 200. Passing of Government examination required for college grade. Fee, \$8.00. Eight lectures a week. Credit, 8 hours.

205 *Radio Code*. Sending and receiving Morse Code. Practice on receiving by tape and commercial receivers. Speed required at close of course is ten words a minute. Fee, \$4.00. Credit, 2 hours.

206 *Advanced Plastics*. 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*. Advanced types of furniture; construction and tenoning; panels; gluing; finishes; design; power machines. Prerequisite: I.A. 122. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.

208 *Carpentry and House Construction*. Use of steel square and carpenters' tools; sharpening tools; framing processes; short cuts; trade terminology. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.

210 *Blue Printing and Developing*. Blue-print making and developments according to industrial specifications. Fee, \$4.00. One lecture, 3 hours laboratory. Credit, 2 hours.

211 *Job Analysis*. Various steps in jobs and their relationship. Fee, \$4.00. Two lectures, 2 hours laboratory. Credit, 2 hours.

212 *Curriculum Making*. Trade and technical material, tool processes, occupational information, and job analysis. Prerequisite: I.A. 211. Fee, \$4.00. Two lectures, 2 hours laboratory. Credit, 2 hours.

213 *Sheet Metal*. Problems in roofing, cornice work, practical intersections, and use of sheet metal machines. Fee, \$6.00. One lecture, 6 hours laboratory. Prerequisite: I.A. 160. Credit, 3 hours.

215g *Micro-Wave Techniques*. A study of micro-wave generating and receiving systems, measurements, theory, installation, operation, and maintenance of typical radar equipment. Fee, \$6.00. Two lectures, 4 hours laboratory. Prerequisite: I.A. 116. Credit, 3 hours.

216g *Radio Frequency Tests and Measurements*. Design, construction and operation of advanced types of testing equipment with application to laboratory and field work. Fee, \$6.00. Two lectures, 4 hours laboratory. Prerequisite: I.A. 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, 6 hours laboratory. Credit, 3 hours.

218g *Steel Square and Roof Framing*. Problems involving the steel square in carpentry, framing, stair building, and sheet metal. Prerequisite: I. A. 208. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.

219 *Elementary Television*. Basic principles of television, image reproducing tubes, kinescopes, horizontal and vertical sweep circuits, video amplifiers, receivers, transmitters, and television antenna design. Industrial techniques used in repair, maintenance and construction of television receivers. Prerequisite: I.A. 116. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

223 *Tool Design and Grinding*. Construction, sharpening, and honing of cutting tools. Care and use of wood cutting tools and rate and clearance needed for metal cutting tools. Fee, \$6.00. Credit, 3 hours.

224g *Estimating and Contracting*. Making cost analysis of structures and utilities placed in them. Procedures concerning titles, mechanic liens, obligations of contractors, etc. Quality values and costs. Writing specifications and contracts. Prerequisites: I.A. 106, 121, 122. Fee, \$3.00. Credit, 3 hours.

225 *Aircraft Instruments*. Construction and operation of instruments used with aircraft powerplants and those recommended for successful flight operation. Fee, \$6.00. Credit, 3 hours.

227 *Auto Mechanics*. Cylinder boring, honing, and dual ignition systems. Fee, \$6.00. One lecture, 6 hours laboratory. Prerequisite: I.A. 104. Credit, 3 hours.

228 *Auto Ignition and Repairs*. Repairing, adjusting, and testing generators, starting motors, magnetos, and other electrical equipment in an automobile. Fee, \$6.00. One lecture, 6 hours laboratory. Prerequisite: I.A. 101. Credit, 3 hours.

231 *Machine Shop*. Care and use of milling machines, the cutting of spur, worm and bevel gears. Plain and direct indexing. Cutters and their upkeep. One lecture, 6 hours laboratory. Fee. \$6.00. Credit, 3 hours.

232 *Machine Shop*. Planers, their care, methods of holding work, uses of fixtures, gauges, and tools. Adjustment of belting for speed and power. Fee, \$6.00. One lecture, 6 hours laboratory. Prerequisite: I.A. 231. Credit, 3 hours.

233 *Electric Arc Welding*. Making satisfactory butt welds, lap welds, ridge welds, T-welds. Fee, \$20.00. One lecture, 6 hours laboratory. Prerequisite: I.A. 179. Credit, 3 hours.

236 *Advanced Upholstery*. Design and construction of large pieces of upholstered projects. Advanced wood finishing. Prerequisite: I.A.

136. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

245 *Route Surveying*. Techniques of using instruments in the field, and associated office computations in surveying and laying out of highways, horizontal curves, vertical curves, cuts, fills, borrow pits and haulage. Prerequisite: I.A. 145. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

251 *Alternating Current Electricity*. Alternating currents and voltages, impedance, power, polyphase voltages, alternating current machines. Fee, \$6.00. Two lectures, 4 hours laboratory. Prerequisite: I.A. 100. Credit, 3 hours.

252 *Broadening and Finding*. Machine lathe practice, drill press work, milling machine work, and special problems. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.

255 *Teaching of Industrial Arts*. For students preparing to teach industrial arts. Making of lesson plans. Organization and presentation of materials to students. Methods of instruction. Types of community problems. Prerequisites: I.A. 100, 106, 109, 111, 121, 122. Fee, \$3.00. Two lectures, 3 hours laboratory. Credit, 3 hours.

257g *Supervision and Administration of Industrial Arts*. Shop organization and principles of supervision applied to shop classes. Classifications of tools, tool operations, and projects. Purchasing supplies and equipment. Prerequisite: I.A. 212. Fee, \$3.00. Credit, 3 hours.

258g *Utilities Service*. Pipe cutting, threading, fitting, calking, roughing in, venting pipe lines, cesspools, toilet fixtures and plumbing requirements. Study of materials used. Prerequisites: I.A. 100, 105, 109, 122, 160. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

260 *Advanced Wood Turning*. All kinds of built-up, segmented and jointed projects. Prerequisite: I.A. 163. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.

261 *Sheet Metal Layout and Construction*. Layout of industrial character including air ducts, cornice work, pipe construction, irregular fittings. Fee, \$6.00. One lecture, 6 hours laboratory. Prerequisite: I.A. 213. Credit, 3 hours.

270g *History of Architecture*. Architecture of ancient Egypt, Mesopotamia, India, Greece, Rome, and oriental countries. Special regard to design, materials and structure. Fee, \$3.00. Two lectures with lantern slides, 4 hours laboratory. Credit, 3 hours.

271g *History of Architecture*. Architecture during the Gothic, Medieval, Renaissance, and Modern periods. Emphasis on design of structures, trusses, qualities of materials, and their involvement into modern design. Prerequisite: I.A. 270. Fee, \$3.00. Two lectures with

lantern slides, 4 hours laboratory. Credit, 3 hours.

272 *Advanced Alternating Current Electricity*. Electrical circuits and machinery. Emphasis on polyphase types of machinery and applications to residential and industrial power. For teachers and for those preparing for industrial and commercial occupations. Two lectures, 4 hours laboratory. Prerequisite: I.A. 251. Fee, \$6.00. Credit, 3 hours.

276 *Landscape Architecture*. Includes surveying, grading and lawn making, structural details of walks, steps, fences, walls, fountain and garden novelties, and effective lighting. Prerequisite: I.A. 125. Fee, \$3.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

277g *Beaux Arts Atelier*. Problems in design of homes and industrial and commercial buildings involving sketching, drafting, details, working drawings, perspective, color, and shades and shadows. Prerequisite: I.A. 201. Fee, \$3.00. Credit, 2 hours.

278g *Beaux Arts Atelier*. Continuation of I.A. 277. Prerequisite: I.A. 277. Fee, \$3.00. Credit, 2 hours.

280 *Advanced Surveying*. Topographical surveying, including introduction to plane table, solar observations, etc. Prerequisite: I.A. 145. One lecture, 6 hours laboratory. Fee, \$6.00. Credit, 3 hours.

281 *Direct Current Machinery*. Theory, design and construction of direct current machinery, involving field and armature windings. Prerequisite: I.A. 203. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

282 *Alternating Current Machinery*. Theory, design and construction of polyphase equipment including training in the winding of fields and armatures. Prerequisite: I.A. 251. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

285g *Estimating and Contracting*. Continuation of I.A. 224 with emphasis on commercial, industrial and public buildings. Contracts, specifications, mechanics' liens, titles, and obligations of contractors and architects. Prerequisite: I.A. 224. Fee, \$3.00. Credit, 3 hours.

291g *Building Design*. Construction layouts for buildings including electric wiring, plumbing, air conditioning specifications, etc. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.

292g *Advanced Building Design*. Problems in lighting, sanitation and air conditioning. Design of reinforced concrete structures including bending moments, stresses, T-beams, slabs, columns, walls and foundations. Prerequisite: I.A. 291. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.

293g *Materials and Methods of Construction*. Properties, and uses of various building materials. The application of flooring, plastering,

stucco work, plumbing, and other materials. Use of iron, steel, and wood in trusses. Fee, \$3.00. One lecture, 6 hours laboratory. Credit, 3 hours.

Library Science

BACHELOR (Librarian)

L. S. 203 *Book Organization*. The principles and practices of the Dewey Decimal classification, cataloging, techniques, subject headings, alphabetizing and filing. Fee, \$1.00. Credit, 3 hours.

205 *Library Book Selection*. Techniques and problems of selecting books for the school and public library. Attention given guides and aids, reading interests, publishers, dealers, etc. Fee, \$1.00. Credit, 3 hours.

206 *School Library Administration*. Organization and administration of the school library, its backgrounds, activities, functions, personnel, materials and equipment. Credit, 3 hours.

240 *Book Services*. Principles and practices of the loan, reference and reading guidance services suitable for the public and school library. Fee, \$1.00. Credit, 3 hours.

251g *Library Materials for Children*. Introduction to the use of books and related materials available for children. Develops ability to select and integrate vital books and materials into the school curriculum and a free-reading library program. Prerequisite: L. S. minor or instructor's approval. Fee, \$2.00. Credit, 3 hours.

252g *Library Materials for Adolescents*. Introduction to the use of books and related materials in youth libraries and in the secondary school program. Develops ability to select and integrate vital books and materials into the school curriculum and a free-reading library program. Prerequisite: L. S. minor or instructor's approval. Fee, \$2.00. Credit, 3 hours.

Department of Mathematics

WEXLER (Head of the Department), GENTRY, BYRNE

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. Not only is a teaching career possible, but also 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.

Teacher-Education Curriculums

The Kindergarten-Primary and Elementary Curriculum.

Arithmetic in the Elementary School is the only course in mathematics required in the elementary curriculum, and is recommended in the kindergarten-primary curriculum as an elective. For students desiring further work in mathematics, such courses as the following are recommended: Math. 105, 106, 107, 118, 119, 120.

The Secondary Curriculum.

Major Teaching Field in Mathematics. Forty-five or more hours of work in mathematics and related fields are required of students who choose mathematics as their major teaching field. Math. 119 (or 106, 107, 118), 120, 122, 123, 221, 222, and 245 are required. Two more courses on the 200 level are to be taken in the junior and senior years. At least one mathematics course must be taken each semester.

Minor Teaching Field in Mathematics. The minor teaching field in mathematics consists of at least five courses in mathematics including the first semester of advanced calculus, Math. 221.

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 pages 74, 75 of the catalog.

Area 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. At least one course in mathematics must be taken each semester.

Description of Courses

Math. 105. *Basic Mathematics.* A survey of some of the fundamental concepts and simple application of mathematics. Designed for students who do not intend to take more than one course in mathematics. Does not presuppose high school algebra or geometry. A required course for the B.A. degree. Each semester. Credit, 3 hours.

106 *Intermediate Algebra.* A first course in algebra for students with little or no recent high school mathematics. Each semester. Credit, 3 hours.

107 *College Algebra.* Intensive review. Study of progressions, permutations and combinations, probability, determinants, theory of equations as time permits. Each semester. Credit, 3 hours.

118 *Trigonometry.* Solution of triangles, logarithms, identities and equations. Each semester. Credit, 3 hours.

119 *Algebra and Trigonometry.* Subject matter equivalent to both Math. 107, 118 in one semester. Capable students should take this course in place of Math. 106, 107, 118, if they intend to go on in mathematics. First semester. Credit, 4 hours.

120 *Analytic Geometry.* Coordinate systems, conic sections, general methods. Courses 119, 120 should be taken in the freshman year; otherwise, elementary calculus is delayed until the junior year. Prerequisite: Math. 118 or 119. Second semester. Credit, 4 hours.

122 *Calculus.* Differential and integral calculus, and more analytic

geometry. Applications to physics. Prerequisite: Math. 120. Credit, 4 hours.

123 *Calculus*. Continuation, Math. 122. Prerequisite: Math. 122. Credit, 4 hours.

205 *Arithmetic in the Elementary School*. Proficiency in arithmetic; study of teaching methods. Each semester. Credit, 3 hours.

221 *Advanced Calculus*. Multiple integrals, partial differentiation and applications; line integrals; improper definite integrals; differential equations; complex variables; other topics as time allows. Prerequisite: Math. 123. Credit, 4 hours.

222g *Advanced Calculus*. Continuation, Math. 221. Prerequisite: Math. 221. Credit, 4 hours.

223g *Symbolic Logic*. Main features of a logic adequate to modern mathematics and science. The basis in language. Notions which play a part in all systematic thinking. Prerequisite: Math., 8 hours, or Phil. 200, or Eng. 252. Credit, 3 hours.

226g *Statistics*. An introduction to the mathematical theory of statistics. Prerequisite: Math. 123. Credit, 3 hours.

241g *Theory of Functions*. Concepts of limits, continuity, derivatives, epsilon proofs. Introduction to the theory of functions of a complex variable. Prerequisite: Math. 222g. Credit, 3 hours.

242g *Theory of Functions*. Continuation, Math. 241g. Prerequisite: Math. 241g. Credit, 3 hours.

243g *Analytical Mechanics*. Vectors, forces in equilibrium, dynamics. Prerequisite: Math. 122. Credit, 3 hours.

244g *Analytical Mechanics*. Continuation, Math. 243g. Prerequisite: Math. 243g. Credit, 3 hours.

245 *Mathematics in the Secondary School*. Advanced topics in algebra, geometry, trigonometry, non-euclidean geometry as time allows; teaching methods. Prerequisite: Ed. 215. Credit, 3 hours.

255g *Theory of Numbers*. The properties of whole numbers. Prerequisite: Math. 107 or 119. Credit, 3 hours.

256g *Projective Geometry*. Analytic study of the projective properties of figures. Prerequisite: Math. 120. Credit, 3 hours.

257g *Theory of Finite Groups*. Groups of permutation; the Galois theory. Credit, 3 hours.

258g *Differential Geometry*. Three dimensional curves and surfaces and their properties. Prerequisite: Math. 122. Credit, 3 hours.

Department of Military Science

C. MCFARLAND (Head of Department), CURTIS, DAVIS, DUNN,
W. MCFARLAND, SHRIGLEY.

General. Arizona State College has a Field Artillery unit and an Air Force unit of the Reserve Officers Training Corps. The training given consists of the usual basic and advanced courses. At the close of the second year of the advanced course, distinguished military graduates will be given regular commissions as second lieutenants.

Requirements for Admission. All able-bodied male students under 23 years of age entering the College as freshmen or sophomores and carrying more than 5 semester hours of work are required to enroll for two years of R.O.T.C. training. Students without previous active service in the armed forces will not be accepted after the age of 23. Those with previous service will be accepted until the age of 25. Men with 3 years of junior R.O.T.C. training or veterans with not less than six months active service are required to take only the second year basic course. Men who have completed the basic course, or who have had one year or more of active service in the army, air force, navy, marines, or coast guard may enroll in the advanced course. The military science requirement does not excuse students from any of the physical education requirements.

Exemptions. Exemptions will be granted to the following only: (a) Aliens. (b) Those certified as physically unfit by the college physician. (c) Those disqualified by age. (d) Those presenting evidence of at least one year of military service. (e) Those transferring sufficient credit for military training from an accredited institution. (f) Those offering other reasons satisfactory to the Military Science Committee. Students requesting exemption will present the evidence on which they claim exemption at the time of registration.

Attendance and Credits. Basic students spend 2 hours in class and 2 hours of drill each week, and receive 1.5 semester hours of credit. Advanced students spend 4 hours in class and 2 hours in drill each week, and receive 3 semester hours of credit. Advanced students are required to attend one summer camp for approximately 6 weeks, normally at the end of the first year of the advanced course.

Pay, Deferments, Commissions. Advanced students receive \$27.00 per month while attending college, and approximately \$75.00 a month during summer camp. Travel pay, uniforms, and food are furnished.

Draft deferments will be granted on a competitive basis. Students who successfully complete the advanced course receive a commission as second lieutenant, either in the reserves or in the regular service. Regular commissions are limited and are recommended on a competitive basis.

Uniforms. Each male student under 23 registering as a freshman or sophomore will make a deposit of \$25.00 in the Business Office when registering. He will present the receipt to the Military Property Custodian who will issue the uniform. The deposit will be refunded if the uniform is returned in good condition.

Basic Courses

M.S. 101 *Basic Military Science.* Instruction in military organization, military hygiene, leadership, drill, maps, national military policy including the National Defense Act. Two lectures, 2 drills a week. Credit, 1.5 hours.

102 *Basic Military Science.* Continuation of M. S. 101. Prerequisite: M.S. 101. Two lectures, 2 drills a week. Credit, 1.5 hours.

103 *Basic Military Science.* Instruction in leadership, drill, physical development methods, maps, aerial photographs, evolution of warfare, military administration, military law. Prerequisite: M.S. 102. Two lectures, 2 drills a week. Credit, 1.5 hours.

104 *Basic Military Science.* Continuation of M.S. 103. Prerequisite: M. S. 103. Two lectures, 2 drills a week. Credit, 1.5 hours.

Advanced Courses

201 *Advanced Military Science.* Branch tactics and techniques in army field artillery and air force administration with view to eventual qualification as battery or administrative officer. Instruction common to both services in leadership, geographical foundations of national power, and military law. Prerequisite: M.S. 104. Four lectures, 2 drills a week. Credit, 3 hours.

202 *Advanced Military Science.* Continuation of M.S. 201. Prerequisite: M.S. 201. Four lectures, 2 drills a week. Credit, 3 hours.

203 *Advanced Military Science.* Tactics and techniques peculiar to requirements of army and air force officers. Instruction in military teaching methods, psychological warfare, U.S. military problems, combat intelligence, mobilization and demobilization, leadership. Prerequisite: M.S. 202. Four lectures, 2 drills a week. Credit, 3 hours.

204 *Advanced Military Science.* Continuation of M.S. 203. Prerequisite: M.S. 203. Four lectures, 2 drills a week. Credit, 3 hours.

Department of Music

HARDLSON (Head of the Department), BARKLEY, BULLOCK, MILES
DRESSKELL, NADINE DRESSKELL, HARGISS, MCKERNAN, QUAID,
BOWERS, AUTENRIETH, HOLFORD, RICKEL.

Courses offered by the Music Department are planned to meet the needs of students registered under any of the Teacher Education, or Art- and Sciences Curriculums.

Admission Tests in Music. Students planning a major teaching field in music under any of the curriculums, must take certain tests to determine their general music 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, eighths, and sixteenths, 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. Students 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, Mazas, 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 teaching field, 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 \$40.00 per semester. For one half hour lesson 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 a semester. Students using college-owned instruments are held financially responsible for damage done them from the time received until returned and inspected at the close of the semester.

Rental on grand pianos in practice rooms is \$5.00 per semester for one hour daily. No charge is made for practice on other pianos.

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

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

Requirements in Private Instruction. A one semester-hour course requires one half-hour lesson a week and one hour practice daily. A two-hour course requires twice this amount. Students taking a major teaching field in music are required to take the two-hour courses.

Teacher-Education Curriculums

The Kindergarten-Primary and Elementary Curriculum.

Students qualifying for the kindergarten-primary certificate must be able to do the ordinary sight-singing, sight reading, and piano accompaniments required. Students who are not proficient in any of the e phases of music may take any or all of the following: Mus. 121, 122, 123, 124, 125, 126 and 227.

The Elementary Curriculum.

For Students Not Specializing in Music. Students not specializing in music may elect any work in theory, voice, or instruments for which they have sufficient background. Those who wish to teach music in their own classrooms should take Mus. 125, 126, and 229.

For Students Specializing in Music. Students desiring a major or minor teaching field in music will follow one of the outlines given below under secondary curriculum.

The Secondary Curriculum.

Under the secondary curriculum, students may choose a major teaching field in vocal, instrumental, or general music. The major teaching field in vocal music prepares for teaching all vocal classes commonly taught in high schools. The major teaching field in instrumental music is for those desiring to teach band, orchestra and

instrumental ensembles. The major teaching field in general music embraces both vocal and instrumental music.

Prerequisites. Music 111, 112 or equivalents are requisites in all major teaching fields. These requirements may be met either by taking the courses or comprehensive examinations.

Major Teaching Field in Vocal Music. The courses listed below are required. Freshman year, Mus. 113, 117, 118; voice, 4 hours; piano, 4 hours; ensemble, 2 hours. Sophomore year, Mus. 115, 116, 119, 120; voice, 4 hours; piano, 4 hours; ensemble, 2 hours. Junior year, Mus. 215, 217, 235, 236; voice, 4 hours. Senior year, Mus. 225; voice, 4 hours. Graduate year: 226g, 284g, 288g, 292g. All students taking this field will be required to take 8 hours of foreign language.

Major Teaching Field in Instrumental Music. The courses listed below are required. Freshman year, Mus. 117, 118; major instrument, 4 hours; piano, 4 hours; ensemble, 2 hours. Sophomore year, Mus. 115, 116, 119, 120; major instrument, 4 hours; piano, 4 hours; ensemble, 2 hours. Junior year, Mus. 215, 219, 235, 236; major instrument, 4 hours; minor instrument, 2 hours. Senior year, Mus. 225; major instrument, 4 hours; minor instrument, 4 hours. Graduate year, Mus. 226g, 245g, 255g, 284g, 288g, 292g.

Major Teaching Field in General Music. Only students with a good background in both vocal and instrumental music will be accepted as candidates for the major teaching field in general music. The courses listed below are required. Freshman year, Mus. 113, 117, 118; voice, 4 hours; piano, 4 hours; ensemble, 2 hours. Sophomore year, Mus. 115, 116, 119, 120; voice, 4 hours; piano, 4 hours; ensemble, 2 hours. Junior year, Mus. 215, 217, 219, 235, 236; instruments 4 hours. Senior year, Mus. 225; instruments, 4 hours. Graduate year, Mus. 226g, 245g, 255g, 284g, 288g, 292g.

Arts and Sciences Curriculums

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 pages 74, 75 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 60 semester hours of work outlined below.

Prerequisite Courses. The following 4 semester hours are prerequisite to other courses: Mus 111, 112. Students who pass a proficiency test in Mus. 111 and 112 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 28 semester hours are required: Mus. 113, 114, 115, 116, 117, 118, 119, 120, 215, 217, 219, 225, 226, 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 32 semester hours of work in it.

(1) *Emphasis on Voice.* Students selecting voice as an emphasis will take 16 hours in voice as follows: Mus. 101, 102, 103, 104, 201, 202, 203, 204; 8 hours from the following in piano: Mus. 101, 102, 103, 104; and eight hours in activity courses which may include chorus, band, orchestra, and small vocal and instrumental ensembles.

(2) *Emphasis on Violin.* Sixteen hours are required in violin: Mus. 101, 102, 103, 104, 201, 202, 203, 204. Eight 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.* Sixteen hours are required in piano: Mus. 101, 102, 103, 104, 201, 202, 203, 204. Eight 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. 111, 112, 117, 118, 235, 236. 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. 111, 112, 117, 118, 219. Work in band and orchestra should be included.

Description of Courses

Mus. 101, 102, 103, 104. *Major Band Instruments—Private Instruction.* Prerequisites: courses taken in order listed. First and second year, 1 or 2 lessons a week. Credit, 1 or 2 hours each.

101, 102, 103, 104. *Minor Band Instruments Private Instruction.* Prerequisites: courses taken in order listed. First and second year, 1 or 2 lessons a week. Credit, 1 or 2 hours each.

101, 102, 103, 104 *Piano Private Instruction.* Courses arranged to meet the needs of students. Public performance provided through afternoon recitals. Prerequisites: courses taken in order listed. First and second year, 1 or 2 lessons a week. Credit, 1 or 2 hours each.

101, 102, 103, 104 *Violin—Private Instruction.* Work arranged to fit the needs of students. Prerequisites: courses taken in order listed. First and second year, 1 or 2 lessons a week. Credit, 1 or 2 hours.

101, 102, 103, 104 *Violoncello Private Instruction.* Study of cello technique and of works of classical and modern composers to fit individual needs. Opportunity for public performance and for orchestra and ensemble playing. Prerequisites: courses taken in order listed. One or two lessons a week. Credit, 1 or 2 hours each.

101, 102, 103, 104, *Voice—Private Instruction.* Development in technique of voice production in singing. Prerequisites: courses taken in order listed. First and second year, 1 or 2 lessons a week. Credit, 1 or 2 hours each.

105 *Preparatory Band.* Provides participation and musical experience to instrumentalists whose proficiency has not yet reached the standard of the symphonic band. Twice a week. Credit, 1 hour.

106 *Preparatory Band.* Continuation of Mus. 105. Prerequisite, Mus. 105. Twice a week. Credit, 1 hour.

111 *Fundamentals of Music.* Elements of music with emphasis on notation, rhythm, major and minor scales, sight singing, and melodic writing. First year, each semester. Credit, 2 hours.

112 *Sight Singing and Ear Training.* Music reading with attention to aural recognition and writing. Prerequisite: Mus. 111. First year, each semester. Credit, 2 hours.

113 *Sight Singing.* Study of advanced materials in sight singing and ear training. Prerequisite: Mus. 112. Second year. Credit, 2 hours.

114 *Sight Singing.* Continuation of Mus. 113. Prerequisite: Mus. 113. Credit, 2 hours.

115 *Harmony I.* Four part harmonic writing, root position and inversions. Prerequisite: Mus. 112. Second year, first semester. Credit, 2 hours.

116 *Harmony II*. Melody writing and simple composition. Prerequisite: Mus. 115. Second semester. Credit, 2 hours.

117 *Music Appreciation*. To develop judgment and discrimination in listening to music. Phonographic recordings used. First year. Credit, 2 hours.

118 *Music Appreciation*. Continuation of Mus. 117. Prerequisite: Mus. 117. Credit, 2 hours.

119 *Keyboard Harmony*. Melodic, harmonic, and rhythmic elements of music. Includes scales, intervals, triads, cadences, notation and dictation. Prerequisites: Mus. 101, 102 (piano), 111, 112. Credit, 2 hours.

120 *Keyboard Harmony*. Seventh chords, key relationship, modulation, and dictation. Prerequisite: Mus. 119. Credit, 2 hours.

121 *Class Piano*. For kindergarten-primary majors. Elements of keyboard technique and sight-reading of folk song material. Two lessons a week. Credit, 1 hour.

122 *Class Piano*. Sight-reading, improvisation, and kindergarten-primary rhythmic. Prerequisite, Mus. 121. Two lessons a week. Credit, 1 hour.

123 *Class Piano*. For kindergarten primary majors. Melody writing, improvisation, and chord accompaniments. Second year, first semester. Prerequisite: Mus. 122. Two lessons a week. Credit, 1 hour.

124 *Class Piano*. Songs, rhythms, and techniques necessary to fluency in performance. Prerequisite: Mus. 123. Second semester. Credit, 1 hour.

125 *Music Fundamentals for Kindergarten and Elementary Teachers*. The first of three classes planned for students following the kindergarten-primary or the elementary curriculum. These three courses, Mus. 125, 126, and 227 or 229, should prepare students to teach music in their classrooms. Previous musical training not required. Second year, first semester. Credit, 2 hours.

126 *Music Fundamentals for Kindergarten and Elementary Teachers*. Continuation of Mus. 125. Prerequisite: Mus. 125. Credit, 2 hours.

127 *Class Voice*. The systematic development of the principles of good singing. Twice a week. Credit, 1 hour.

128 *Class Voice*. Continuation of Mus. 127. Prerequisite: Mus. 127. Credit, 1 hour.

130 *Introduction to Music.* The correlation of music with literature, science and art. Not required of those specializing in music. Each semester. Credit, 2 hours.

131, 132, 133, 134 *Vocal Ensemble.* Includes madrigal group quartets and trios. Prerequisites: courses taken in order listed. Twice a week. Credit, 1 hour each.

135 *Class Violin.* Beginners only. Fundamentals of violin and viola. Daily individual practice. Twice a week. Credit, 1 hour.

136 *Class Violin.* Continuation of Mus. 135. Prerequisite: Mus. 135. Credit, 1 hour.

137 *Class Instrumental Instruction.* Brass, reed, and percussion instruments. Instrument rental, \$2.50 a semester. Twice a week. Credit, 1 hour.

138 *Class Instrumental Instruction.* Continuation of Mus. 137. Prerequisite: Mus. 137. Credit, 1 hour.

141, 142, 143, 144 *Instrumental Ensemble.* String, brass and woodwind ensembles. Prerequisite: courses taken in order listed. Twice a week. Credit, 1 hour each.

151, 152, 153, 154 *Choral Union and Concert Choir.* Open to students with reasonable vocal ability. Superior singers selected from the Choral Union form the Concert Choir. Public appearances include church, school, radio, and an annual spring tour. Prerequisite: courses taken in order listed. Daily. Credit, 1 hour each.

161, 162, 163, 164 *Orchestra.* Study and performance of symphonic literature. Membership selective. Prerequisite: courses taken in order listed. Twice a week. Credit, 1 hour each.

171, 172, 173, 174 *Symphonic and Marching Band.* Staging of formations and drills for football games and other events. Emphasis on symphonic works written for bands. Membership selective. Prerequisites: courses taken in order listed. Three times a week. Credit, 1 hour each.

201, 202, 203, 204 *Major Band Instruments—Private Instruction.* Participation in public recitals required. Prerequisites: Mus. 104, and 201-204 in order listed. Third and fourth years, 2 lessons a week. Credit, 2 hours each.

201, 202, 203, 204 *Piano—Private Instruction.* Participation in formal public recitals required. Prerequisites: Mus. 104, and 201-204 taken in order. Third and fourth years, 1 or 2 lessons a week. Credit, 1 or 2 hours each.

201, 202, 203, 204 *Violin Private Instruction*. Participation in formal public recitals required. Prerequisites: Mus. 104, and 201-204 taken in order. Third and fourth years, 1 or 2 lessons a week. Credit, 1 or 2 hour each.

201, 202, 203, 204 *Violoncello Private Instruction*. Participation in formal public recitals required. Prerequisites: Mus. 104, and 201-204 taken in order listed. Third and fourth years, 1 or 2 lessons a week. Credit, 1 or 2 hours each.

201, 202, 203, 204 *Voice Private Instruction*. Participation in formal public recitals required. Prerequisites: Mus. 104, and 201-204 taken in order. Third and fourth years, 1 or 2 lessons a week. Credit, 1 or 2 hours each.

215 *Harmony III*. Altered chords, modulation, form, and creative writing. Prerequisites: Mus. 115, 116. Third year, first semester. Credit, 2 hours.

217 *Choral Conducting*. Elements of choral technique and interpretation. Required of music majors. Third year, first semester. Three times a week. Credit, 2 hours.

219 *Instrumentation and Conducting*. Required of majors. Prerequisite: Mus. 217. Third year, second semester. Credit, 2 hours.

225 *History of Music*. Survey of music from Grecian sources to the twentieth century. Prerequisite: Mus. 117, 118. Fourth year. Credit, 2 hours.

226g *History of Music*. Continuation of Mus. 225. Prerequisite: Mus. 225. Credit, 2 hours.

227 *Music in the Kindergarten and Primary Grades*. Techniques of music teaching, materials and problems. Prerequisites: Mus. 125, 126. Third year, first semester. Credit, 2 hours.

229 *Music Education in the Elementary School*. Techniques of music teaching, materials, and music problems. Prerequisites: Mus. 125, 126. Third year, second semester. Credit, 2 hours.

231, 232, 233, 234 *Vocal Ensemble*. Continuation of Mus. 131-134. Prerequisites: Mus. 134, and 231-234, taken in order. Twice a week. Credit, 1 hour each.

235 *Music Education—Primary and Intermediate Grades*. For students preparing to be special teachers or consultants in music. Prerequisites: Mus. 111, 112. Third year, first semester. Credit, 3 hours.

236 *Music Education—Junior and Senior High School.* Problems, materials, and teaching techniques. Relationship of music department to the whole school program. Prerequisites: Mus. 111, 112, 235. Third year, second semester. Credit, 3 hours.

241, 242, 243, 244 *Instrumental Ensemble.* Continuation of Mus. 141-144. Prerequisites: Mus. 144, and 241-244 taken in order. Twice a week. Credit, 1 hour each.

245g *Band and Orchestra Methods.* Survey of wind, string, and percussion methods and materials used in the development of junior and senior high school bands and orchestras. Credit, 2 hours.

251, 252, 253, 254 *Choral Union and Concert Choir.* Continuation of Mus. 151-154. Prerequisites: Mus. 154, and 251-254 taken in order. Daily. Credit, 1 hour each.

255g *Organization and Administration of High School Bands and Orchestras.* Organization problems, procedures and materials. Credit, 2 hours.

261, 262, 263, 264 *Orchestra.* Continuation of Mus. 161-164. Prerequisites: Mus. 164, and 261-264 taken in order. Twice a week. Credit, 1 hour each.

271, 272, 273, 274 *Symphonic Band.* Continuation of Mus. 171-174. Prerequisites: Mus. 174, and 271-274 taken in order. Three times a week. Credit, 1 hour each.

284g *Counterpoint.* Polyphonic style of the sixteenth and seventeenth centuries. Prerequisite: Mus. 215. Fifth year, first semester. Credit, 2 hours.

288g *Composition.* Application of harmony and counterpoint to the smaller forms of composition. Prerequisite: Mus. 215, 284g. Fifth year, second semester. Credit, 2 hours.

292g *Form and Analysis.* Study of the smaller forms through the sonata and symphony. Prerequisite: Mus. 215. Fifth year, first semester. Credit, 2 hours.

Department of Health and Physical Education

LAVIK (Head of Department), MURPHY (Director of Women),
KINZLE, KAJIKAWA, DOHERTY, QUINN, GILLANDERS, GESAS, KLANN,
ONOFRIO, THOMSON, EVANS, JOY.

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.

Students are excused from the required activity courses only when a written permit is received signed by the college physician. In certain activity classes uniforms are required. These may be obtained at the College Book Store.

Men. Freshmen men are required to register for P.E. 107, 108 with the exception that P.E. 111, 112 may be substituted by those students who complete these courses successfully, and make a team squad. After the freshman year, men may select their remaining two semesters of physical education activity from any of the department offerings. Except in unusual cases no man may earn more than 0.5 hour of credit in activity during any one semester. Beginning in September, 1949, no freshman will be admitted to professional courses, but sophomores who have maintained at least a 1.75 index during the freshman year may be admitted to such courses. 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.

Women. Freshmen women are required to register for P.E. 101, 102, Basic P.E., during their freshman year. After the freshman year, women may elect the remaining one semester hour of physical education from any of the departmental physical education activity offerings. Opportunity is afforded for all women to take part in intramural dance and sport activities, sports day competition and dance symposiums with other colleges in the state and adjoining states. The intramural sports and dance programs are sponsored by the Women's

Athletic Association. Membership in this association is open to all who accumulate 100 points through intramural competition in sport and dance activities.

Teacher-Education Curriculums

Kindergarten-Primary and Elementary Curriculums.

For Students Not Specializing in Physical Education. In addition to the 8 semester hours required of all students, women preparing to handle a limited program of health and physical education will find it helpful to select some of the following courses: P.E. 117, 119, 120, 131, 132, 167, 215, 223, 224, 225, 226, 232. For the same purpose, men may elect courses from the following: P.E. 167, 217, 218, 230, 240.

For Students Specializing in Physical Education. Students specializing in this department should take the following: Zool. 171, 172 and P.E. 109, 167, 236 or 245, and 251. In addition, women should choose from the following courses making a total of 30 semester hours excluding the core curriculum requirements: P.E. 172, 173, 174, 190, 223, 224, 225, 226, 227, 250, 255. Men should choose additional courses from the following: P.E. 195, 196, 217, 218 and five hours from P.E. 230, 240, 254, making a total of 30 semester hours. A special certificate is granted to students who complete not less than 30 semester hours.

The Secondary Curriculum.

Major Teaching Field in Physical Education. This teaching field consists of at least 45 semester hours done during the first four years. At least 24 hours shall be in physical education courses. At least 18 hours of the 45 must be in upper division courses. Additional courses in physical education should be completed in the fifth year. The following are the requirements for this teaching field:

First and second years. The following courses are required of both men and women: Zool. 171, 172, P.E. 109, 167. In addition, women take the following: P.E. 171, 172, 173, 174, 215, 190, 191, 192, and one semester hour each in sports and dance activity. In addition, men take P.E. 195, 196, Chem. 110.

Third and fourth years. Both men and women take the following: P.E. 236 or 245, 251. Women choose 24 hours from the following: P.E. 211, 225, 226, 227, 232, 250, 253, 254, 255, Ed. 233, 237, 265. Men take a minimum of 24 additional hours of physical education including P.E. 217 and 218.

Fifth year. It is suggested that students choose some of the following courses: P.E. 238g, 254g, 255g, 281g, 282g, 335, 340, Ed. 233, 237g, 238g, 265g, 336.

Minor Teaching Field in Physical Education. A minimum of 15 semester hours, including six hours in upper division courses, are required of all students. Women take P.E. 109, 224, 227, and choose the remainder from the following: P.E. 167, 171, 172, 173, 174, 215, 190, 191, 192, 225, 250, Zool. 171, 172. Men must take P.E. 109, 167, 217 and 218, or P.E. 195 and 196, and select the remainder with the approval of the head of the department.

Minor Teaching Field in Health Education. Required of both men and women: P.E. 167, 215, 250. Optional courses suggested for women: Zool. 171, 172, P.E. 236, 240, 245, 251, 255, H.Ec. 101. Optional courses for men, approved by department head. Minimum of 15 hours required including 6 in upper division courses.

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 requirements of 40 semester hours listed under Arts and Sciences curriculums found on pages 74, 75 of the catalog.

Areas of Concentration.

The area of concentration consists of 39 semester hours as outlined below.

Prerequisite Courses. The following are prerequisites: Zool. 171, 172.

Required Courses for Both Men and Women. The following 12 hours are required: P.E. 109, 167, 251, 254.

Required for Women Only. The following are required: P.E. 171, 172, 173, 174, 191, 192, 211, 215 or 242, 232, 255.

Required for Men Only. The following are required: P.E. 195, 196, 217, 218, 230, 236, 240; Chem. 110.

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, 236, 253, 254, 255, 281, or 282; Zool. 163; Chem. 111, 112, 180; Psych. 214, 231, 240; Ed. 120, 216; Zool. 111, 112.

(2) Emphasis on Health Education. P.E. 215 or 242, 225, 236, 240, 254, 255; Zool. 163; Bot. 220; Biol. 204; H.Ec. 101, 104, 212; Psych. 231, 234; Ed. 120, 216; Zool. 111, 112.

(3) Emphasis on Recreation. P.E. 161, 211, 230, 232, 253; Art 115, 120, 220; I.A. 122; Psych. 231, 234, 240; Ed. 120, 216.

(4) Emphasis on the Therapies. Phys. 111, 112, Zool. 163; Bot. 220; Biol. 204, 225; Art 106, 115, 120, 220; I.A. 163, 222; Psych. 208, 214, 225, 240; Ed. 120, 216, 254; Zool. 111, 112.

Description of Courses

Courses For Men Only

P.E. 107 *Sports Survey Men.* Individual and team sports. Required of men in freshman year. Varsity athletes may substitute P.E. 111 or 113. Twice a week. Credit, $\frac{1}{2}$ hour.

108 *Sports Survey—Men.* Continuation of P.E. 107. Varsity athletes may substitute P.E. 112 or 114. Credit, $\frac{1}{2}$ hour.

109 *Introduction to Physical Education Men.* For sophomore or upper division men who wish to major or minor in physical education. A cumulative index of 1.75 is required for admission to the course. Three times a week. Credit, 3 hours.

111 *Athletic Men. First year.* Participation in football, basketball or other first semester intercollegiate sports. Five times a week. Credit, $\frac{1}{2}$ hour.

112 *Athletics Men.* First year. Participation in baseball, track and other second semester intercollegiate sports. Five times a week. Credit, $\frac{1}{2}$ hour.

113 *Athletics Men.* Second year. Participation in football, basketball and other first semester varsity sports. Five times a week. Credit, $\frac{1}{2}$ hour.

114 *Athletics—Men. Second year.* Participation in baseball, track and other second semester varsity sports. Five times a week. Credit, $\frac{1}{2}$ hour.

- 115 *Sophomore Sports Men*. Continuation of Sports Survey, P.E. 108. Prerequisite: P.E. 108. Twice a week. Credit, $\frac{1}{2}$ hour.
- 116 *Sophomore Sports Men*. Continuation of P.E. 115. Prerequisite: P.E. 115. Twice a week. Credit, $\frac{1}{2}$ hour.
- 124 *Beginning Gymnastics*. Techniques of performing and teaching skills involving gymnastic apparatus and tumbling. Twice a week. Credit, $\frac{1}{2}$ hour.
- 125 *Advanced Gymnastics*. Continuation of P.E. 124. Twice a week. Credit, $\frac{1}{2}$ hour.
- 126 *Beginning Boxing*. Twice a week. Credit, $\frac{1}{2}$ hour.
- 127 *Intermediate Boxing*. Twice a week. Credit, $\frac{1}{2}$ hour.
- 170 *Fundamentals of Scoutmaster Training*. Philosophy of scouting organization and practice. Actual participation in scoutmaster activities. Completion leads to Scoutmaster Certificate. Prerequisites: one course each in Psychology and Sociology. Credit, 2 hours.
- 195 *Professional Activities*. History, organization and techniques of physical activities and minor sports. Present day problems confronting teachers. Two semesters required of men specializing in physical education. Credit, 2 hours.
- 196 *Professional Activities*. Continuation of P.E. 195. Prerequisite: P.E. 195. Credit, 2 hours.
- 211 *Athletics—Men*. Third year. Participation in football, basketball and other first semester varsity sports. Five times a week. Credit, $\frac{1}{2}$ hour.
- 212 *Athletics Men*. Third year. Participation in baseball, track and other second semester varsity sports. Five times a week. Credit, $\frac{1}{2}$ hour.
- 213 *Athletics—Men*. Fourth year. Participation in football, basketball and other first semester varsity sports. Five times a week. Credit, $\frac{1}{2}$ hour.
- 214 *Athletics—Men*. Fourth year. Participation in baseball, track and other second semester varsity sports. Five times a week. Credit, $\frac{1}{2}$ hour.
- 217 *Coaching*. Theory and techniques of basketball, track and baseball. Lecture and laboratory, 3 times a week. Credit, 2 hours.
- 218 *Coaching*. Theory, techniques and officiating of football. Lecture and laboratory, 3 times a week. Credit, 2 hours.
- 219 *Officiating Basketball, Baseball and Track*. Instruction and

practice in officiating in basketball, baseball and track events. Credit, 2 hours.

270 *Advanced Scouting*. Principles and practice in scout and cub organization and leadership. For staff officers and field executives. Prerequisites: Scoutmaster certificate and senior standing. One lecture, 2 laboratory hours. Credit, 2 hours.

Courses For Women Only

101 *Basic Physical Education Women*. Volleyball, folk-dance, tennis. Required of freshmen women not specializing in physical education. Fee, \$2.00. First semester, twice a week. Credit, $\frac{1}{2}$ hour.

102 *Basic Physical Education—Women*. Softball, modern dance, archery. Required of freshmen women not specializing in physical education. Fee, \$2.00. Second semester, twice a week. Credit, $\frac{1}{2}$ hour.

109 *Introduction to Physical Education—Women*. An orientation and guidance course. Required of freshmen women specializing in physical education. Three times a week. Credit, 3 hours.

111, 112, 113, 114 *Athletics—Women*. Advanced classes in volleyball, hockey, softball, basketball, badminton and track. Four times a week. Credit, $\frac{1}{2}$ hour each.

169 *Camp Fire Leadership*. Theory and practice emphasizing group work techniques and special procedures. Completion leads to certificate from National Council of Camp Fire Girls of America. Prerequisite: junior standing. Credit, 1 hour.

171, 172, 173, 174 *Professional Activities*. The activities included are designated professional because of their value to women students specializing in physical education. Four hours are required of them. Five times a week. Credit, 1 hour each.

190 *Dance in Education*. History and values of the dance. Dance composition and rhythm analysis. Use of percussion instruments in teaching rhythmic activities. Three times a week. Credit, 2 hours.

191 *Dance Production*. Advanced course in modern dance composition. Experience in dance production. Required of women specializing in physical education. Prerequisite: P.E. 190, or equivalent. Three times a week. Credit, 1 hour.

192 *Dance Production*. Continuation of P.E. 191. Prerequisite: P.E. 191. Three times a week. Credit, 1 hour.

223 *Directing Games of Low Organization*. Class organization and methods of teaching games suitable for indoors and outdoors in ele-

mentary grades. Arizona State Course of Study used. Three times a week. Credit, 2 hours.

224 *Directing Major Team Sports.* Class organization, teaching and coaching of volleyball, basketball, softball, speedball. Prerequisites for women: two hours, professional activities. Three times a week. Credit, 2 hours.

225 *Directing Individual and Dual Sports.* Class organization, teaching and coaching of tennis, archery, badminton, golf, track and field. Prerequisites for women: two hours, professional activities. Three times a week. Credit, 2 hours.

226 *Directing Dance in Elementary Schools.* Theory and practice of teaching dance in elementary schools. Sources and material, and attention to rhythmic activities of the Arizona State Course of Study. Prerequisite: P.E. 190. Three times a week. Credit, 2 hours.

227 *Directing Dance in Secondary Schools.* Theory and practice of teaching dance activities in secondary schools. Sources, material, and accompaniment. Prerequisite: P.E. 190. Three times a week. Credit, 2 hours.

232 *Programs and Festivals.* Production of pageants, festivals, and dance programs. Discussion of materials and national festivals. Prerequisite: P.E. 190. Two times a week. Credit, 2 hours.

253g *Methods of Officiating.* Qualifications of officials, techniques of officiating, and interpretation of rules. Prerequisites: P.E. 171, 172, 173, 174, 224, 225. Three times a week. Credit, 2 hours.

Courses For Both Men and Women

P.E. 100 *Hygiene.* Required of all students. Separate sections for men and women. Twice a week. Credit, 2 hours.

103 *Beginning Tap Dance.* Twice a week. Credit, ½ hour.

104 *Advanced Tap Dance.* Twice a week. Credit, ½ hour.

105 *Square Dance.* Twice a week. Credit, ½ hour.

110 *Badminton.* Twice a week. Credit, ½ hour.

117 *Recreational Games.* Instruction and playing experience in table tennis, shuffleboard, bowling, paddle tennis, deck tennis, croquet. Twice a week. Credit, ½ hour.

118 *Rifle.* Twice a week. Credit, ½ hour.

119 *Beginning Folk Dance.* European, cowboy, early American, and Latin American dances. Twice a week. Credit, ½ hour.

120 *Advanced Folk Dance.* Continuation of P.E. 119. Prerequisite:

- P.E. 119. Twice a week. Credit, $\frac{1}{2}$ hour.
- 121 *Beginning Golf*. Twice a week. Credit, $\frac{1}{2}$ hour.
- 122 *Advanced Golf*. Twice a week. Credit, $\frac{1}{2}$ hour.
- 131 *Beginning Tennis*. Twice a week. Credit, $\frac{1}{2}$ hour.
- 132 *Intermediate Tennis*. Twice a week. Credit, $\frac{1}{2}$ hour.
- 133 *Advanced Tennis*. Twice a week. Credit, $\frac{1}{2}$ hour.
- 141 *Beginning Archery*. Twice a week. Credit, $\frac{1}{2}$ hour.
- 142 *Intermediate Archery*. Twice a week. Credit, $\frac{1}{2}$ hour.
- 143 *Advanced Archery*. Twice a week. Credit, $\frac{1}{2}$ hour.
- 150 *Beginning Social Dance*. Twice a week. Credit, $\frac{1}{2}$ hour.
- 151 *Intermediate Social Dance*. Twice a week. Credit, $\frac{1}{2}$ hour.
- 160 *Fencing*. For beginners. Twice a week. Credit, $\frac{1}{2}$ hour.
- 161, 162, 163, 164 *Restricted Activities*. Limited activities for students who cannot, because of disabilities, enroll in regular physical education classes. Written recommendation of the school physician required. Twice a week. Credit, $\frac{1}{2}$ hour.
- 167 *First Aid*. Prevention, diagnosis, and treatment of accidents. Techniques in teaching. Twice a week. Credit, 2 hours.
- 181 *Beginning Modern Dance*. Twice a week. Credit, $\frac{1}{2}$ hour.
- 182 *Intermediate Modern Dance*. Twice a week. Credit, $\frac{1}{2}$ hour.
- 183 *Advanced Modern Dance*. Four times a week. Credit, $\frac{1}{2}$ hour.
- 215 *Health in Elementary Schools*. Materials and methods of health instruction. Required for minor in health education. Three times a week. Credit, 3 hours.
- 220 *Playground Leadership*. Study of games and other activities, their organization, and administration. Required for the elementary certificate. Separate sections for men and women. Credit, 2 hours.
- 221 *Camp Counseling*. Considers problems confronting a counselor plus a review of activities offered in a camp program. Second semester, twice a week. Credit, 2 hours.
- 230 *Community Recreation*. Significance, functions, program content, methods of operation, leadership, finance, and legal aspects of municipal recreation. Credit, 3 hours.
- 236 *Organization and Administration of Health and Physical Education*. Organization, administration, and supervision of the physical education program in elementary and high schools. Separate sections for men and women. Credit, 3 hours.

238 *Related Activities.* Activities related to the physical education program for elementary and high schools. Prerequisites: P.E. 109, 236 or 245 and 251. Credit, 2 hours.

241g *School Health Problems.* Helps teachers recognize and meet health problems through developing skills in screening techniques, analysis of individual pupil health needs, planning for healthful school environment and use of community resources. Prerequisites: P.E. 100, Zool. 171, 172, Ed. 260 or teaching experience. Credit, 2 hours.

242 *Health Education.* The role and duties of the classroom teacher in building an effective health program for the school and the community, including school health services, health instruction, and school environmental sanitation. Prerequisites: P.E. 100, G.S. 110. Credit, 3 hours.

245 *Tests and Measurements in Health and Physical Education.* Types of tests and uses, including classification and grading of students. Practice in administering tests. Credit, 3 hours.

250 *Health and Physical Education in the Secondary Schools.* A methods course required of women pursuing the secondary curriculum, with a major teaching field in physical education. Prerequisites: Zool. 171, 172, P.E. 109, 215. Credit, 3 hours.

251 *Applied Anatomy and Kinesiology.* Origins, insertions, and actions of muscles. Emphasis on postural problems. Prerequisites: Zool. 171, 172. Credit, 3 hours.

254g *Physiology of Exercise.* The effects of exercise upon bodily functions. Prerequisites: Zool. 171, 172. Credit, 3 hours.

255g *Corrective Physical Education.* Health examinations, postural deviations and problems of those requiring corrective physical activities. Open to men and women. Prerequisites: Zool. 171, 172; P.E. 251. Credit, 3 hours.

267 *First Aid Instructorship.* For individuals who wish to receive certification as Red Cross First Aid instructors. Prerequisites: Advanced First Aid Certificate, and over 21 years of age. Credit, 1 hour.

281g *Advanced Dance Composition.* Theory and practice in dance composition. Form in music related to dance composition. Study of archaic, pre-classic, and modern style. Prerequisites: P.E. 190, 191, 192, Art 215 or Mus. 202. Credit, 2 hours.

282g *Percussion and Improvisation.* Theory and practice in use of percussion instruments. Improvisation of simple dance studies. Compositions of percussion accompaniment for modern dance studies. Prerequisites: P.E. 190, 191, 192, Art 215 or Mus. 202. Credit 2 hours.

335 *Problems in Health and Physical Education.* Controversial issues in physical education, such as grading, excuses, budget, shower and locker room organization, point systems, etc. Prerequisites: P.E. 190, 236 or 245, 251. Credit, 2 hours.

336 *Seminar in Physical Education.* Practices and procedures in the various areas of health and physical education. Prerequisite: P.E. major. Credit, 3 hours.

340 *Curriculum Construction in Health and Physical Education.* Principles and practices and a functional philosophy of curriculum making with applications of this theory. Prerequisites: P.E. 109, 190, 236, Ed. 215. Credit, 2 hours.

Department of Psychology

SKINNER (Head of Department), GURNEE, GRIMES, BALL, SMITH,
HOLLY, YOUNG, ROSE.

The aims of the work of the Department of Psychology are four-fold: (a) to further the general educational objectives of the college, (b) to give students an understanding of the psychological principles that will enable them to make satisfactory adjustments to the problems of everyday living, (c) to enable those who are preparing to become teachers to apply psychological principles to the problems of the classroom so that children may make better adjustments and learn more efficiently, and (d) to give the background necessary to those who plan to do special work in the field of psychology.

Teacher-Education Curriculums

For Students Not Specializing in Psychology. Students wishing only a few courses should consult the head of the department.

For Students Specializing in Psychology. Students may select with the approval of the head of the department such courses as may fit their individual interests, needs, and abilities. A minimum of 24 hours is suggested.

Arts and Sciences Curriculums

Degree. The arts and science curriculum with an area of concentration in psychology leads to the degree of Bachelor of Science.

Generalization Requirements.

Forty semester hours are required as outlined on pages 74, 75 of the catalog.

Area of Concentration in Psychology.

In addition to the 40 semester hours in the Generalization Requirements, the following 50 semester hours are required:

Prerequisites. The following 10 semester hours: Soc. 120; Psych. 100; G.S. 110, or approved substitute in biological science.

Required Courses. The following 12 hours are required: Psych. 200, 215, 225, 230, and one additional approved course.

Optional Courses. Additional courses in psychology to constitute a minimum of 24 semester hours approved by the adviser and 16 semester hours to be selected from two or more other departments: Zool. 171, 172; Biol. 204; Ed. 216, 232, 250, 265, 266; Soc. 125, 204, 205, 206, 212, 215, 220, 225; H.Ec. 209; Speech, 127, 220, 227, 257; Bus. Ad. 219, 265; P.S. 203; Philos. 200, 202.

Description of Courses

Psych. 100. *Elementary Psychology.* Considers basic principles of psychology and such activities as emotions, motives, thinking, observing, learning, and intelligence. Fee, 50 cents. Credit, 3 hours.

140 *Human Growth and Development.* The physical, mental, emotional and social development of the child to the age of ten. Designed especially for the needs of the teacher or others who work with children. Prerequisites: Soc. 120, Psych. 100. Fee, 50 cents. Credit, 2 hours.

141 *Human Growth and Development.* Continuation of Psych. 140. Emphasizes the period from age ten to maturity. Prerequisites: Soc. 120, Psych. 140. Fee, 50 cents. Credit, 2 hours.

200 *Educational Measurements.* Construction, interpretation and use of tests. Practice in simple graphical and statistical methods. Prerequisite: Psych. 100. Fee, 50 cents. Each semester. Credit, 3 hours.

Philos. 200 *Introduction to Philosophy.* Fundamental issues and terminology in philosophy. The development of philosophical thought from the early Greeks to modern times. Open to upperclassmen only. Prerequisites: Psych. 100, Soc. 120. Each semester. Credit, 3 hours.

Philos. 202 *Principles of Ethics.* The meaning of right and wrong, the development of moral understanding, the ethical foundations of

personal and social relations. Prerequisites: Psych. 100, Philos. 200. Credit, 3 hours.

211g *Statistical Methods*. Interpretation and application of statistics as employed in education and psychology. Assembling and analysis of data. Measures of central tendency, variability, reliability, and simple correlation. Prerequisites: Psych. 200, 213. Credit, 3 hours.

213 *Educational Psychology*. An analysis and application of psychological facts and laws particularly relevant to the problems of education. Prerequisite: Psych. 100. Credit, 3 hours.

214 *Applied Psychology*. Application of psychological principles in business, industry, medicine, law and personnel. Prerequisite: Psych. 100. Credit, 3 hours.

215 *Mental Hygiene*. Factors necessary for good mental health; basic needs of the individual; prevention of mental disorders and correction of personality disorders in their early stages. Prerequisite: Psych. 100. Credit, 2 hours.

220g *Individual Mental Testing*. A study of the Stanford Binet and other scales, and of performance tests. Practice in giving these tests. Prerequisites: Psych. 200, 224, 213, or 234. Fee, \$1.00. Credit, 3 hours.

224 *Clinical Psychology*. Survey of clinical work on diagnosis and adjustment of problem children. Educational and other adjustment problems are diagnosed and remedial measures suggested. Prerequisites: Psych. 141, 200 or 234. Credit, 2 hours.

225 *Social Psychology*. The behavior of man in his social relations. Problems of crowd behavior, social control, propoganda, suggestion, imitation, competition, cooperation, and leadership. 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; factors contributing to delinquency; prevention and correction; case studies. Prerequisite: 3 courses in psychology. Credit, 2 hours.

230g *Abnormal Psychology*. Prevention, symptoms and treatment of mental deficiency and insanity. Prerequisites: twelve hours in psychology. Credit, 2 hours.

231 *Psychology of Adolescence*. Methods and findings of recent studies of the development, growth and problems of the adolescent, with implications for education. Prerequisites: Psych. 141 or 213. Credit, 2 hours.

234 *Child Psychology*. Development, growth and psychological activities of the child. Problems of adjustment and child training.

Survey of experimental and observational studies. Prerequisite: Psych. 100. Credit, 3 hours.

235g *Individual Differences*. The nature and extent of psychological differences among individuals and groups, and their significance for curriculums and educational methods. Prerequisites: Psych. 200, 213. Credit, 2 hours.

237g *Experimental Psychology*. A survey of typical experiments in psychology including reaction time, perception, learning and problem solving. Emphasis on methods of experimentation. Demonstrations. Prerequisite: 16 hours psychology or equivalent. Fee, \$1.00. Credit, 3 hours.

240 *Psychology of Personality*. The elements of personality, and the conditions which determine the pattern and the direction of its growth. Methods of judging personality and character. Prerequisite: at least 3 courses in psychology. Credit, 2 hours.

242g *Recent Problems in Psychology*. Seminar based on readings and discussions of contemporary problems in psychology. Prerequisite: Permission of instructor. Credit, 2 hours.

244 *History of Psychology*. Major problems and trends of modern psychology traced from their beginnings to the present including the development of the modern scientific approach. Prerequisite: 12 hours psychology. Credit, 3 hours.

245g *Psychology of Religion*. Problems and experiences in the field of religion. Methods and techniques for gathering and evaluating data. Prerequisites: at least 3 courses in psychology. Credit, 3 hours.

250g *Psychological Techniques*. Principles and techniques of clinical diagnosis including therapy, counseling, interviewing, projective techniques, and diagnostic tests. Prerequisites: Psych. 200, 224, 220. Credit, 2 hours.

280g *Psychological Clinic*. Laboratory practice in psychological testing and diagnosis. Intelligence, personality, interest and vocational testing and advisement. Prerequisites: Psych. 220, 224. Fee, \$1.00. Credit, 2 hours.

281g *Psychological Clinic*. Continuation of Psych. 280g. Prerequisite: Psych. 280. Fee, \$1.00. Credit, 2 hours.

282g *Reading Clinic*. Laboratory practice in administration, interpretation and application of diagnostic tests and remedial procedures in reading on elementary and secondary school levels. Prerequisites: Psych. 200, 213, 224 or permission. Fee, \$1.00. Credit, 2 hours.

308 *Advanced Educational Psychology*. Review of scientific publi-

cations on the facts, laws, and theories of learning, with reference to problems of education. Prerequisites: Psych. 200, 213. Credit, 2 hours.

313 *Recent Studies in Educational Psychology.* Survey of the latest experimental reports relevant to current problems of teaching. Prerequisites: Psych. 200, 213. Credit, 2 hours.

322 *Psychology and Education of Exceptional Children.* Psychological principles essential for the understanding and education of exceptional children. Prerequisites: Psych. 200, 213 or 234. 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.* The theory of aptitudes, types of aptitude tests, and use of aptitude tests in the guidance program. Prerequisites: Psych. 200, 213. Credit, 2 hours.

Department of Sciences

BATEMAN (Head of Department), MORTENSON, STAHNKE, MILLER,
KRUMBOLTZ, LARMORE, MCCLEARY, KOELSHE,
MAUGHAN, HANSON, KLOSE, WAGER.

The department of sciences offers courses in the following fields: biology, chemistry, geography, general science, geology, physics, and zoology. 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 Specializing in Science. 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.

For Students Specializing in Science. Students doing special work in science should choose the following: G.S. 100, 110, 231, Geog. 100, Zool. 171, 172. It is suggested that they add enough courses selected from the following to make 24 semester hours: Bot. 110, Chem. 110, 180, Geog. 101, 203, 205, 210, 217, 222, Zool. 110, Biol. 204. Those desiring a major teaching field, see below under secondary curriculum.

The Secondary Curriculum.

Students planning to teach science in the high school should take basic courses in biology, chemistry, physics and mathematics. Over-specialization is to be avoided because the prospective science teacher may find it necessary to give instruction in most of the above fields.

To complete a major teaching field in science, at least 45 semester hours of work, in science and related fields, must be completed in the first four years. A minimum of 18 semester hours shall be upper division courses. Not less than 25 semester hours must be completed in one subject field and the remaining 20 hours from related fields. The following major teaching fields are offered: (1) Biological Science, (2) Earth Science, (3) General Science, and (4) Physical Science.

Each student should begin to plan his program with his adviser not later than the second year. Required courses for each teaching major are listed. The optional courses in science and related subjects should be selected under the guidance of the adviser. Candidates for the Master's degree in secondary science teaching should complete additional science work during the period of graduate training. In each major teaching field a number of courses for graduates are recommended.

Major Teaching Field in Biological Science. The work in this field should be selected so that the student will receive basic training in both animal and plant science.

Undergraduate courses required: Chem. 110, 114; Zool. 111, 112, 171, 172, 210; Bot. 110, 220; Biol. 204; G.S. 260; Phys. 111, 112. Recommended courses for graduates: Bot. 230g, 242g, 243g; Zool. 203g, 231g, 232g, 270g.

Major Teaching Field in Earth Science. Students planning to teach geography, social studies and related subjects should select this field. Any substitutions should be approved by the adviser. Undergraduate courses required: Geog. 100, 101, 203, 204, 205, 215; Geol. 151, 152; Chem. 110, 114 or Bot. 110; Zool. 110. Optional courses: at least 15 semester hours to be selected from science and related fields. Recommended courses for graduates: Geog. 206g, 217g.

Major Teaching Field in General Science. This teaching major is recommended for the prospective teacher who plans to teach general science or who may find employment in a small high school. Undergraduate courses required: Geog. 100; Geol. 151; Chem. 110, 114; Bot. 110; Zool. 111, 112, 171, 172; Phys. 111, 112, 200; G.S. 260. Recommended courses for graduates: Bot. 230g, 242g; Zool. 230g, 231g; Geog. 217g.

Major Teaching Field in Physical Science. Those interested in teaching physics should take a minor in mathematics, while the prospective chemistry teacher is advised to minor in either mathematics or biology. Undergraduate courses required: Bot. 110; Zool. 110; Chem. 111, 112, 180, or 211, 212; Phys. 111, 112, 200, 210; G.S. 260. Optional courses; at least 8 semester hours selected from science and related fields. Recommended courses for graduates: Chem. 251g, 252g, 260g, 280g; Phys. 223g, 230g, 241g.

Minor Teaching Fields in Science. Minor teaching fields are offered in general science, geography, biology, chemistry and physics. Each student desiring a science teaching minor shall begin planning with his science adviser not later than the beginning of his third year. Any courses required for the major will not be accepted as meeting the requirements for the minor teaching field. A minor consists of at least 15 semester hours, of which not less than 3 semester hours shall be upper division. Suggested program for each minor teaching field are given below. The student may select the courses in any one of the following fields that fits his interests and requirements.

Minor Teaching in Biology. Basic courses in both plants and animals should be included in the student's program. Bot. 110, 220, 230, G.S. 260; Zool. 111, 112, 171, 172, 210, 230.

Minor Teaching Field in Chemistry. Chem. 111, 112, 141, 142, 180, 260, 280; G.S. 260.

Minor Teaching Field in Geography. Geog. 100, 101, 120, 203, 204, 205, 212, 215, 217; Geol. 151, 152.

Minor Teaching Field in General Science. Bot. 110; Zool. 110; Chem. 110, 114; Phys. 111, 112, 200; Geol. 151; G.S. 260.

Minor Teaching Field in Physics. Phys. 111, 112, 118, 200, 230, 241; G.S. 260.

Arts and Sciences Curriculums

The department of science offers the opportunity for students to concentrate in botany, chemistry, conservation, geography and geology, physics, zoology or a combination of these fields.

Degrees. Students completing the requirements of an arts and sciences curriculum with an area of concentration in any of the fields of science listed below 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 pages 74, 75 of the catalog, the student must complete one of the areas of concentration as outlined below.

Areas of Concentration.

Biological Science Area. This field affords basic training for positions in conservation, entomology, forestry, biological survey, national park service, pest control, biological research, many branches of the U. S. Public Health Service, industrial or civil service positions or entrance into a graduate school.

The student should select one of the following fields of emphasis during his freshman year and then consult his adviser for guidance in outlining the four years of work.

(1) Emphasis on General Biology. Required courses: Biol. 204; Bot. 110, 230, 242, 260; Chem. 110, 180 or 211 and 212; Phys. 111, 112; Zool. 111, 112, 210, 230, 254. Optional courses: Ag. 125, 126, 143, 216 or 219, 246; Biol. 190, 290; Bot. 160, 171, 172, 220, 244, 248; Chem. 280; Geol. 151, 152; Zool. 163, 171, 172, 231, 232, 260, 270, 271, 276.

(2) Emphasis on Botany. Required courses: Biol. 204; Bot. 110, 160 or 220, 171, 172, 230, 242, 244; Chem. 110, 180 or 211 and 212; Phys. 111, 112; Zool. 111, 112. Optional courses: Ag. 125, 126, 143, 216, 246; Biol. 190, 290; Bot. 160 or 220, 243; Chem. 280; Geol. 151, 152; Zool. 210.

(3) Emphasis on Conservation. In this division of emphasis the student may follow either the wildlife or soils interest. (a) Wildlife. Required courses: Biol. 204; Bot. 110; Chem. 110, 180 or 211 and 212; Geog. 100; Phys. 111, 112, 210, 230, 232, 254, 270, 271, 276. Optional courses: Ag. 219, 246; Biol. 190, 290; Bot. 160, 220, 230, 242, 244, 248; Chem. 280; Zool. 163, 231. (b) Soils. Required courses: Ag. 101, 107, 143, 230, 246; Bot. 110, 220; Chem. 110, 180 or 211 and 212; Geog. 100, 101, 217; Geol. 151; Phys. 111, 112; Zool. 111, 112. Optional courses: Ag. 102; Biol. 190, 204, 290; Bot. 230, 244; Chem. 280; Geol. 152; Zool. 210, 230, 231, 270.

(4) Emphasis on Zoology. Required courses: Biol. 204; Bot. 110, 220; Chem. 110, 180 or 211 and 212; Phys. 111, 112; Zool. 111, 112, 163, 210, 230, 232, 254, 260, 270. Optional courses: Ag. 185; Biol. 190,

290; Bot. 230, 242; Chem. 280; Geol. 151, 152; Zool. 171, 172, 231, 271, 276, and one of the following: Ag. 107, 108, 114, 116, 202, 208, 219.

Physical Science Area. In this area the student may concentrate in chemistry or physics or geography and geology. By completing one of the fields of emphasis consisting of 48 semester hours of work as outlined below, the student may qualify for industrial or civil service positions such as junior chemist, geologist, or physicist or for entrance into a graduate school. Students concentrating in chemistry or physics are advised to complete Math. 122, 123 by the end of the second year. Before graduation a reading knowledge of German, French or Russian should be developed. The student should select one of the following fields of emphasis and begin to plan his program with his adviser not later than the first year. Required courses for each of the physical science fields are outlined below. The optional courses should be selected under the guidance of the adviser.

(1) Emphasis on Chemistry. Required courses: Chem. 110 or 111, 112, 141, 142, 150, 211, 212, 251; Phys. 111, 112; Bot. 110; Zool. 110; Geol. 151; Math. 119, 120, 122, 123. Optional courses: Chem. 215, 260, 270, 280; Phys. 210, 230, 241; Geol. 211, 212.

(2) Emphasis on Physics. Required courses: Bot. 110; Zool. 110; Chem. 110 or 111, 112, 251, 252; Phys. 111, 112 or 121, 122, 200, 221, 222, 223, 230, 241; Math. 119, 120, 122, 123. Optional courses: Phys. 118, 210; Geol. 151, 152, 211, 212; Math. 220, 221, 222, 243, 244; Chem. 141, 142.

(3) Emphasis on Geography and Geology. In this area the student may emphasize either geography or geology. (a) Geography. Required courses: Geog. 100, 101, 203, 204, 205, 215; Geol. 151, 152. Related courses will be selected under guidance of the adviser. (b) Geology. Required courses: Geol. 151, 152, 211, 212, 215; Bot. 110; Zool. 110; Chem. 110 or 111, 112; Phys. 111, 112; Math. 119 or equivalent; Geog. 217, 222. Related courses will be selected under the guidance of the adviser.

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.

Description of Courses

General Science

G. S. 100 *Introduction to the Physical Sciences*. Principles and facts in fields of physics, chemistry, meteorology, geology, and astronomy. Does not meet science requirements in pre-professional curriculums. Fee, \$1.00. Each semester. Credit, 4 hours.

110 *Introduction to Biological Sciences*. Biological principles illustrated by both plants and animals. Does not meet science requirements in pre-professional curriculum. Fee, \$2.00. Each semester, 3 lectures, 1 two-hour laboratory. Credit, 4 hours.

231 *Science for the Elementary School*. Development of an integrated science program in each grade of the elementary school. Lectures, library reports, class discussion, field observation and a three-day camping trip. Pre requisites: G. S. 100, 110; Geog. 100. Fee, \$1.00. Credit, 3 hours.

260 *Science in the Secondary School*. Principles and methods of teaching general science, biology, chemistry and physics. Prerequisite: Ed. 215. Credit, 3 hours.

301 *Seminar: Teaching of Science in Secondary Schools*. Review and survey of current publications. Presentations and solution of problems dealing with the field. Credit, 2 hours.

Biology

Biol. 190 *Special Techniques in Biology*. Individual projects in the biological sciences. A type of honors course, open only to outstanding students. Approval of the instructor and head of the department required. Fee, \$1.00 per semester hour. Credit arranged.

204 *Genetics and Eugenics*. Principles and facts of heredity developed from plants and animals. Principles of race improvement. Prerequisites: Bot. 110, Zool. 112, or equivalent. Credit, 3 hours.

Botany

Bot. 110 *General Botany*. Brief survey of lower plant life. More detailed study of flowering plants. Fee, \$4.00. Each semester, 3 lectures and 3 hours laboratory. Credit, 4 hours.

160 *General Plant Pathology*. The causes of diseases in plants and methods for control. Prerequisite: Bot. 110. Fee, \$5.00. Two lectures, 2 three hour laboratories. Credit, 4 hours.

171 *Plant Anatomy*. Morphology of plant cells, tissues, and tissue systems. Study of prepared slides and fresh materials. Prerequisite: Bot. 110. Fee, \$4.00. Two lectures, 6 hours laboratory. Credit, 4 hours.

172. *Plant Physiology*. Plant functions of absorption, food synthesis, nutrition, respiration, growth and reproduction. Prerequisites: Bot. 171, Chem. 180. Fee, \$4.00. Two lectures and 6 hours laboratory. Credit, 4 hours.

220 *General Bacteriology*. The fundamental principles of bacteriology, and their hygienic, industrial and agricultural applications. Prerequisites: Bot. 110, Chem. 110. Fee, \$5.00. Each semester, 2 lectures and 3 two-hour laboratory periods a week. Credit, 4 hours.

230g *Plant Ecology*. Origin and development of vegetation with applications to agriculture, forestry, grazing. Prerequisite: Bot. 110. Fee, \$2.00. Three lectures and 1 laboratory. Credit, 4 hours.

242g *Systematic Botany*. Principles underlying the classification and naming of plants, their identification, and methods of collecting, preserving, and mounting. Prerequisite: Bot. 110. Fee, \$4.00. Two lectures and 4 hours laboratory. Credit, 4 hours.

243g *Cacti and Succulents of Arizona*. Identification of the principal desert cacti and succulents in the area. Prerequisites: Bot. 242. Fee, \$3.00. One lecture, 3 hours field work or 6 hours field work. Credit, 2 hours. Not offered 1949-1950.

244 *Morphology of Lower Plants*. Morphology and economic importance of thallophytes, bryophytes, and pteridophytes. Prerequisite: Bot. 110. Fee, \$4.00. Two lectures and 2 three-hour laboratory periods. Credit, 4 hours.

260 *Plant Histology*. Microscopic anatomy of plant tissues and methods of preparation and identification. Prerequisites: Bot. 110, 171. Fee, \$5.00. Two lectures and 2 three-hour laboratory periods. Credit, 4 hours.

Chemistry

Chem. 110 *Introductory Chemistry*. The principles of general chemistry, important nonmetals. For students with little or no training in the subject. Students may take Chem. 112, 114, or 180, second semester. Fee, \$4.00. Three lectures, 3 hours laboratory. Credit, 4 hours.

111 *General Chemistry*. Principles of chemistry; important nonmetals and compounds. For physical science, pre-medical, and pre-engineering students. Prerequisite: high school chemistry. Fee, \$4.00. First semester, 3 lectures, 3 hours laboratory. Credit, 4 hours.

112 *General Chemistry and Qualitative Analysis*. The metallic elements. Qualitative separation of metals and their acids. Prerequisite: Chem.

110 or 111 with grade of C or higher. Fee, \$5.00. Second semester, 3 lectures, 2 recitations, 4 hours laboratory. Credit, 5 hours.

114 *General Chemistry*. Chemistry of metals, nonmetals and carbon. For agriculture students and others not majoring in science. Prerequisite: Chem. 110 or 111. Fee, \$4.00. Second semester, 3 lectures, 3 hours laboratory. Credit, 4 hours.

131 *Qualitati e Analysis*. Principles and methods of separation of the common metals and acids. Prerequisite: Chem. 112 or 114. Fee, \$5.00. First semester, 2 lectures, 6 hours laboratory. Credit, 4 hours.

141 *Quantitative Analysis*. Fundamental principles of volumetric and gravimetric analysis. Standardization of acids, bases and oxidizers. Prerequisites: Chem. 112 and algebra. Fee, \$6.00. Two lectures, 6 hours laboratory. Credit, 4 hours.

142 *Quantitative Analysis*. Continuation of Chem. 141. Prerequisite: Chem. 141. Credit, 4 hours.

150 *Glass Blowing*. Laboratory techniques in glass blowing. Limited to science majors. Fee, \$3.00. Four hours laboratory. Credit, 1 hour.

180 *Elementary Organic Chemistry*. Survey of the compounds of carbon, including representative groups of aliphatic and aromatic series. For students of home economics, agriculture and biology. Prerequisite: Chem. 110 or 111. Fee, \$4.00. Second semester, 3 lectures, 3 hours laboratory. Credit, 4 hours.

211 *General Organic Chemistry*. Chemistry of organic compounds including aliphatic and aromatic hydrocarbons and derivatives. Prerequisite: Chem. 142. Fee, \$5.00. Three lectures, 3 hours laboratory. Credit, 4 hours.

212 *General Organic Chemistry*. Continuation of Chem. 211. Prerequisite: Chem. 211. Credit, 4 hours.

215g *Characterization of Organic Compounds*. Classification reactions and laboratory methods of identifying organic compounds. Prerequisite: Chem. 212. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.

251g *General Physical Chemistry*. Includes gases, liquids, solids, solutions, equilibrium, phase rule, electro chemistry, thermo-dynamics, atomic structure, radioactivity, and colloids. Prerequisites: Chem. 142, Phys. 112, Math. 123. Fee, \$5.00. Three lectures, 1 three-hour laboratory period. Credit, 4 hours.

252g *General Physical Chemistry*. Continuation of Chem. 251. Prerequisite: Chem. 251. Credit, 4 hours.

260g *Applied Chemistry*. Applications of chemistry to agriculture,

water softening, sanitation, fuels, cosmetics. Prerequisites: Chem. 180 or 212. Credit, 3 hours.

270g *Advanced Quantitative Analysis*. Analysis of water, food, ore, rock, steel, urine, etc. Prerequisite: Chem. 142. Fee, \$2.00 per credit hour. Time and credit arranged.

272 *Advanced Inorganic Chemistry*. Atomic structure and the periodic table. The physical basis of compound formation. Prerequisite: Chem. 142.

280g *Biochemistry*. Chemistry of animal and plant life including biological compounds, tissues, foods and digestion, enzymes, etc. Prerequisites: Zool. 172; Chem. 180 or 212. Fee, \$4.00. Three lectures, 3 hours laboratory. Credit, 4 hours.

Geography

Geog. 100 *Elements of Geography*. Climate, relief, drainage, soils, plant and animal life; their inter-relationship and influence upon man. Fee, 50 cents. Each semester. Credit, 3 hours.

101 *Economic Geography*. Production, distribution, and consumption of various types of commodities of the world and relationships to the activities of man. Prerequisite: Geog. 100. Fee, 50 cents. Credit, 3 hours.

120 *Map Making and Interpretation*. Corrects the present improper use of maps and develops skill in map making and interpretation. Fee, \$1.00. Credit, 2 hours.

203 *Geography of Europe*. Natural regions of Europe, their climates, relief features, drainage, soil, plants, and animals and their influence upon man's activities. Prerequisite: Geog. 100. Fee, \$1.00. Credit, 3 hours.

204 *Geography of North America*. Physiographic provinces of the continent with their respective climates, products, and major activities of man. Prerequisite: Geog. 100 or 101. Fee, \$1.00. Credit, 3 hours.

205 *Geography of South America*. Physiographic regions, their climates, products, and human activities. Prerequisites: Geog. 100, 101, or 204. Fee, \$1.00. Credit, 3 hours.

206g *Geography of Arizona*. Landscape features, climate, soils, minerals, water resources, plant and animal life, and industries and influence on man's activities. Fee, \$1.00. Credit, 2 hours.

210 *Geography of Trade and Transportation*. Geographical analysis of the world's trade routes by land, sea and air. Prerequisite: Geog. 100, 101. Fee, \$1.00. Credit, 3 hours.

212 *World Geography*. Evolution or modification of cultures and

economics influenced by natural environment. Prerequisite: Geog. 100, 101. Credit, 3 hours.

215 *Geography of Asia*. Physical and cultural landscapes of the continent. Emphasis on U. S. S. R., its industries, resources and world relationships. Prerequisites: Geog. 100, 101. Fee, \$1.00. Credit, 3 hours.

217g *Conservation of Natural Resources*. Distribution, conservation, and most efficient use of natural resources of the United States, including soil, water, minerals, wild life, and recreational facilities. Prerequisites: Geog. 100, 101. Fee, \$1.00. Credit, 3 hours.

220 *Climatology*. Principles of climate; attention to climatic regions and climate cycles. Prerequisite: Geog. 100. Phys. 118, desirable. Fee, \$1.00. Credit, 3 hours.

222 *Physiography of the United States*. Physiographic regions, geological processes in their formation and influence upon man's activities. Prerequisite: Geog. 100, or Geol. 151. Fee, \$1.00. Two lectures, 1 two-hour laboratory. Credit, 3 hours.

Geology

Geol. 151 *Physical Geology*. Earth changes due to temperature, wind, water, ice, volcanoes, earthquakes, etc. Fee, \$2.00. Three lectures, 2 hours laboratory a week, and a minimum of 18 hours field work a semester. Credit, 4 hours.

152 *Historical Geology*. Origin and chronological succession of events that have developed our earth and its life. Prerequisite: Geol. 151. Fee, \$2.00. Three lectures and 3 hours laboratory a week, and a minimum of 18 hours field work a semester. Credit, 4 hours.

211 *Mineralogy*. Mineral structure and identification based on crystal forms, physical properties and chemical composition. Prerequisites: Chem. 112 or 114; Geol. 152. Fee, \$3.00. Two lectures, 3 hours laboratory. Credit, 3 hours.

212 *Mineralogy*. Continuation of Geol. 211. Prerequisite: Geol. 211. Credit, 3 hours.

215 *Economic Geology*. Distribution, origin, occurrence, production and utilization of metallic and nonmetallic minerals. Fee, \$2.00. Credit, 3 hours.

Physics

Phys. 111 *General Physics*. Lecture and laboratory covering mechanics, heat, sound, light, electricity, and magnetism. Fee, \$3.00. Three lectures, 3 hours laboratory. Credit, 4 hours.

112 *General Physics*. Continuation of Phys. 111. Prerequisite: Phys. 111. Credit, 4 hours.

118 *Meteorology*. Atmosphere, hygrometry, weather, methods of observation and prediction, frost warnings, climate. Fee, \$1.00. Credit, 3 hours.

121 *Engineering Physics*. Mechanics, heat, sound, light, magnetism. Prerequisite: parallel enrollment in calculus. Fee, \$5.00. Four lectures, 3 hours laboratory. Credit, 5 hours.

122 *Engineering Physics*. Continuation of Phys. 121. Prerequisite: Phys. 121. Credit, 5 hours.

200 *Astronomy*. Solar system, motions of the planets, eclipses, variable stars, stellar astronomy, and an introduction to navigation and astrophysics. Prerequisite: Phys. 112. Credit, 3 hours.

210 *Photography*. Cameras, light, lenses, exposure, photographic chemistry, filters and sensitometry. Prerequisites: Phys. 112, Chem. 112. Fee, \$4.00. First semester, 2 lectures, 3 hours laboratory. Credit, 3 hours.

221 *Mechanics and Heat*. A more advanced presentation than is given in general physics. Prerequisites: Phys. 112 and calculus. First semester. Credit, 3 hours.

222 *Electricity and Magnetism*. Electrostatics, magnetism, direct and alternating current theory, electromagnetic waves, radio. Prerequisites: Phys. 112 and calculus. Second semester. Credit, 3 hours.

223g *Optics*. Geometric and physical optics, reflection, refraction, lenses, wave properties, polarization, spectroscopy, and radiation. Prerequisite: Phys. 112 or 122 and calculus. Fee, \$4.00. Second semester, three lectures, 3 hours laboratory. Credit, 4 hours.

230g *Electronics*. Conduction of gases, vacuum tubes with emphasis on applications to communications. Prerequisites: Phys. 112, Math. 123. Credit, 3 hours.

241g *Modern Physics*. Recent developments in physics including atomic structure, radiant energy, x-rays, spectra, radioactivity, and astrophysics. Prerequisites: Phys. 112, Math. 123. Credit, 3 hours.

Zoology

Zool. 110 *Principles of Animal Biology*. Facts and principles concerning animal life. For students not majoring in biological science, medicine or dentistry. Fee, \$4.00. Three lectures, 1 three-hour laboratory. Credit, 4 hours.

111 *General Zoology*. Form and activities of invertebrate animals of the more important groups. Fee, \$4.00. First semester, 3 lectures, 1 four hour laboratory. Credit, 4 hours.

112 *General Zoology*. Continuation of Zool. 111, dealing with vertebrates and the fundamental principles of zoology. Prerequisite: Zool. 111. Fee, \$4.00. Second semester. Credit, 4 hours.

163 *Comparative Anatomy*. Structure, development, and homology of the vertebrate systems. Prerequisites: Zool. 111, 112. Fee, \$6.00. Each semester, two lectures, 2 three-hour laboratory periods. Credit, 4 hours.

171 *Human Anatomy-Physiology*. Skeletal, articulatory, muscular, integumentary, and nervous systems, and special senses. Fee, \$2.00. Credit, 3 hours.

172 *Human Anatomy-Physiology*. Circulatory, respiratory, digestive, excretory, endocrine and reproductive systems. Zool. 171 should be taken first, but not required. Fee, \$2.00. Credit, 3 hours.

210 *General Entomology*. Form, activities, and classification of insects. Prerequisite: Zool. 112. Fee, \$4.00. Second semester, 3 lectures, 1 four hour laboratory period. Credit, 4 hours.

230g *Animal Ecology*. Wild animals of North America—their adaptations, communities, habitat, succession, conservation, etc. Prerequisites: Zool. 111, 112. Fee, \$4.00. Second semester, 3 lectures, 1 laboratory period. Credit, 4 hours.

231g *Poisonous Animals of Arizona*. Form, activities, and identification of venomous animals of Arizona and others thought venomous. Prerequisite: Zool. 112. Fee, \$4.00. Three lectures, one four-hour laboratory. Credit, 4 hours.

232g *General Parasitology*. Pathogenic protozoa, worms, and arthropod parasites. Prerequisite: Zool. 112. Fee, \$5.00. Three lectures, 1 four-hour laboratory. Credit, 4 hours.

233g *General Herpetology*. Form, activities, and identification of lizards and snakes. Special emphasis on those of the Southwest and the United States. Prerequisite: Zool. 112. Fee, \$4.00. Three lectures, 4 hours laboratory. Credit, 4 hours.

254 *Vertebrate Embryology*. Animal development from the egg to the period of extra uterine or extra-ovular existence. Prerequisite: Zool. 112, 163. Fee, \$6.00. First semester, 3 lectures, 4 hours laboratory. Credit, 4 hours.

260 *Animal Histology*. Microscopic anatomy of vertebrate tissues with techniques of preparation and identification. Prerequisites: Zool. 112, 163. Fee, \$5.00. Two lectures, 2 three-hour laboratories a week. Credit, 4 hours.

270g *Ornithology*. Structure, activities, classification, field identifi-

cation, and economic relation of birds. Prerequisite: Zool. 112. Fee, \$4.00. Two lectures, 1 three hour laboratory. Credit, 3 hours.

271 *Game Animals*. Structure, activities, life histories, identification of game fish, birds, and mammals of North America. Prerequisite: Zool. 112. Fee, \$4.00. Three lectures, 1 four-hour laboratory. Credit, 4 hours.

276 *Wildlife Management*. Factors and principles involved in wildlife management. Prerequisites: Bot. 110, Zool. 111, 112. Three lectures, 1 three-hour field trip 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. Credit, 4 hours.

240 *Biological Laboratory Technique*. Examinations of stained smears for identification of bacteria, sputum examinations, etc. Credit, 4 hours.

250 *Histology*. Structure of tissues and organs. Preparation of stained sections. Credit, 4 hours.

265 *Serology*. Serological and immunological procedures. Complement fixation and precipitation tests for diagnosis of syphilis. Credit, 2 hours.

271 *Parasitology*. Parasites of intestines and blood. Recognition of ova, the life cycle of parasites and mode of transmission. Credit, 2 hours.

273 *Hematology*. Normal and abnormal blood cells, and alteration of the formed elements, etc. Credit, 4 hours.

Chem. 282. *Biochemistry*. Chemistry of animal life, biological compounds, etc. Credit, 4 hours.

284 *Blood Chemistry*. Examination for pathological compounds, abnormal chemical changes, abnormal substances, etc. Credit, 4 hours.

286 *Chemical Examination of the Urine*. Changes in chemical composition of the urine and abnormal values of usual constituents. Credit, 2 hours.

288 *Chemistry of Digestion*. Chemical examinations of the gastric and duodenal contents, bile, and feces. Credit, 2 hours.

Department of Social Studies

WYLLYS (Head of the Department), VAN PETTEN, KRENKEL, TILDEN.

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 Specializing in Social Studies. In addition to the courses required in the teacher-education curriculums, P. S. 200, Hist. 101-102 or 103-104, the following are recommended as electives: Hist. 109, 110, 111-112, P. S. 101, 102, S. S. 100.

For Students Specializing in Social Studies. It is suggested that students desiring a limited number of courses choose them as follows: not less than twelve hours in lower division courses chosen from S. S. 100, Hist. 101-102, 103-104, 105-106, 110, 111-112, P. S. 101, 102, 103, 104, and twelve hours of upper division courses such as Hist. 202, 203, 204, 205, 206, 207, 208-209, 210, 211, 212, P. S. 201, 203, 204, 205, 206, 207. Students desiring a major teaching field, see below under secondary curriculum.

The Secondary Curriculum.

It is recommended that students planning to teach social studies complete basic courses in history, sociology, economics and political science, since they may be expected to teach several branches of social science. Major teaching fields are offered in general social studies, history and political science. Courses recommended to students majoring therein include work in other related departments. A major teaching field requires the completion, within the first four years, of at least 45 semester hours of work in one of the three fields specified above. At least 25 hours must be in one subject field and not less than 20 of the total shall be upper division. Candidates for the master's degree preparing to teach social studies should complete additional courses in one or more of these fields during the fifth year. Programs for each of the teaching fields are outlined below.

Major Teaching Field in General Social Studies. This field is for prospective teachers who may teach several different phases of social studies. In addition to Hist. 101-102 or 103-104, and P. S. 200, this teaching field requires at least 16 hours in lower division courses chosen from the following: S.S. 100, Hist. 101-102, 103-104, 105-106, 109, 110, 111, 112, P.S. 101, 102, 103, 104, Econ. 130, 132, Geog. 101, and 18 hours in upper division courses chosen from the following: Hist. 202, 203, 204, 206, 208, 209, 210, 211, 212, 213, 214, S.S. 212, P.S. 201, 204, 206, Econ. 219, 262, Geog. 204, 206, 217, or from other courses selected in conference with the adviser.

Major Teaching Field in History. This field is for those who expect to teach mainly history. In addition to Hist. 101-102 or 103-104 and P. S. 200, the student will complete at least 16 hours in lower division courses chosen from the following: S. S. 100, Hist. 101-102, 103-104, 105-106, 107-108, 109, 110, 111-112, 113, 114, 115-116, P. S. 101, 104, Econ. 130, Geog. 101, and 18 hours in upper division courses chosen from the following: Hist. 202, 203, 204, 205, 206, 207, 208-209, 210, 211, 212, 213, 214, S.S. 212, Geog. 203, 204, 205, 206, 212, 215, or from other related courses selected in conference with the adviser.

Major Teaching Field in Political Science. This field is for those who plan to teach mainly political science or civics. In addition to Hist. 101-102 or 103-104 and P. S. 200, the student will complete at least 16 hours in lower division courses chosen from the following: S.S. 100, Hist. 101-102, 103-104, 105-106, 109, 110, P. S. 101, 102, 103, 104, Econ. 130, 132, Geog. 101, and 18 hours in upper division courses chosen from the following: Hist. 203, 208-209, P. S. 201, 203, 204, 205, 206, 207, Econ. 205, 206, 217, 219, 262, 265, Geog. 203, 204, 205, 206, 212, 215, 217, or from other related courses selected in conference with the adviser.

A minor teaching field may be selected from any of the three groups of the social studies subjects. It consists of at least 15 semester hours in a subject field in the department, exclusive of courses counted toward the major field. The appropriate general education courses in social studies required by the college may be applied toward a teaching major or minor. At least 6 of the 15 hours in a minor should be in upper division courses. P. S. 200 may be counted toward a minor.

Minor Teaching Field in General Social Studies. First year, S. S. 100, Hist. 101-102 or 103-104, choice of P. S. 101, 102 or Econ. 130; second year, Hist. 101-102 or 103-104, choice of P. S. 103, 104, Geog. 101, Econ. 132, or Hist. 105-106, 109, 110; third and fourth years, choice of Hist. 203, 204, 206, 208-209, 211, S.S. 212, P.S. 201, 204, 206, Econ. 219, 262, Geog. 204, 205, 217.

Minor Teaching Field in History. First year, S. S. 100, Hist. 101-102, or 103-104, choice of Hist. 105-106, 107, 108, 109, 110, 111-112, 113, Econ. 130, P. S. 101, 102, Geog. 101; second year, Hist. 101-102 or 103-104, and choice of Hist. 105-106, 107-108, 109, 110, 111-112, 113, 114, 115-116, P. S. 103, 104, Econ. 132, Geog. 101; third and fourth years, choice of Hist. 202, 203, 204, 205, 206, 207, 208-209, 210, 211, 212, 213, P. S. 203, 204, 205, 206, 207, Geog. 203, 204, 205, 206, 212, 215, S. S. 212.

Minor Teaching Field in Political Science. First year, S. S. 100, Hist. 101-102 or 103-104, P. S. 101, 102, choice of Hist. 109, 110, Econ. 130; second year, Hist. 101-102 or 103-104, P. S. 103, 104, choice of Hist. 105-106, Econ. 132, Geog. 101; third and fourth years, choice of Hist. 203, 208-209, P. S. 200, 201, 203, 204, 205, 206, 207, Econ. 205, 206, 219, 262, 265, Geog. 203, 204, 205, 206, 212, 215, 217, S. S. 212.

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 pages 74, 75 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, 210, 212, P. S. 201, 205, 206, 207.

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, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213.

(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, 207, Geog. 208, 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*. Includes introductory material on history, economics, sociology, anthropology, political science. First semester. Five times a week. Credit, 5 hours.

212 *Teaching the Social Studies*. Methods of teaching history, civics, and other social sciences. Given when demand is sufficient. Prerequisites: Hist. 101, 102, 103, 104, Ed. 215. Second semester. Credit, 2 hours.

History

Hist. 101 *Survey of Western Civilization, I*. Origins of western civilization and its development through medieval times. First semester. Credit, 3 hours.

102 *Survey of Western Civilization, II*. Continuation of Hist. 101 through Renaissance and modern times. Second semester. Credit, 3 hours.

103 *United States Through the Civil War*. From 1783 through Civil War. First semester. Credit, 3 hours.

104 *United States Since the Civil War*. Continuation of Hist. 103 to the present period. Emphasis on economic and cultural growth. Second semester. Credit, 3 hours.

105 *History of England to 1603*. A survey of the political, economic, and social development of the British people from the earliest times to end of the Tudor period. First semester. Credit, 3 hours.

106 *History of England Since 1603*. Political, economic and social development of England and the British Empire from 1603 to the present. Second semester. Credit, 3 hours.

107 *Ancient Orient and Greece*. Western ancient history through the Hellenistic period. First semester. Credit, 3 hours.

108 *History of Rome*. Roman period from the origin of Rome to the downfall of the Roman Empire. Second semester. Credit, 3 hours.

109 *Economic History of the United States*. Economic development of the American people from 1783 to the present. First semester. Credit, 3 hours.

110 *The Growth of American Institutions.* This course is introductory to the subject of American History. Each semester. Credit, 3 hours.

111 *The Southwest to 1865.* Survey of southwestern history before Civil War times. First semester. Credit, 3 hours.

112 *The Southwest Since 1865.* Development of southwestern states, people and economic life since Civil War. Second semester. Credit, 3 hours.

113 *Medieval Europe.* Development of European peoples from the fall of Rome to the Renaissance. First semester. Credit, 3 hours.

114 *Colonization of North America.* Colonial era of American history, both Spanish and English, with some consideration of French and other colonial peoples to 1783. Second semester. Credit, 3 hours.

115 *Colonial Hispanic America.* Period of exploration, conquest and colony development among Latin American peoples to 1830. First semester. Credit, 3 hours.

116 *Independent Hispanic America.* Nationalistic growth of the peoples of Latin America since the winning of independence. Second semester. Credit, 3 hours.

202 *The Far East.* Early and modern history of China, Central Asia, Japan, Malaysia and India. Prerequisites: Hist. 101, 102. Second semester. Credit, 2 hours.

203 *American Foreign Relations.* The machinery of American diplomacy and development of American foreign policy. Prerequisites: Hist. 103, 104. First semester. Credit, 2 hours.

204 *American Frontier.* Territorial expansion and settlement of the American people since colonial times. Prerequisites: Hist. 103, 104. Second semester. Credit, 2 hours.

205 *French Revolution and Napoleon.* Period of world revolution and imperialist wars, 1763-1815. Prerequisites: Hist. 101, 102. First semester. Credit, 2 hours.

206g *Contemporary Europe.* European history since the First World War. Prerequisites: Hist. 101, 102. First semester. Credit, 2 hours.

207 *History of Mexico.* The formation, culture and social life of the Mexican people since colonial times. A knowledge of Spanish is desirable but not essential. Prerequisites: Hist. 103, 104. Credit, 2 hours.

208g *American Cultural History.* The development to 1860 of American ideas, ideals, literary expressions and social standards. Prerequisites: Hist. 103, 104. First semester. Credit, 2 hours.

209g *American Cultural History Since 1860.* A continuation of Hist. 208g, dealing with American culture since the middle nineteenth century. Prerequisites: Hist. 103, 104. Second semester. Credit, 2 hours.

210g *Renaissance and Reformation.* Antecedents and development of the Renaissance in Italy, its spread into the rest of Europe, and the resultant revolution in religious and political thought. Prerequisites: Hist. 101, 102. Credit, 2 hours.

211g *Nineteenth-Century Europe.* Growth of nationalism in nineteenth-century Europe, with emphasis upon economic, political and social trends. Prerequisites: Hist. 101, 102. First semester. Credit, 2 hours.

212 *The Pacific Area.* History of the countries surrounding and controlling the Pacific. Emphasis upon cultural backgrounds. Prerequisites: Hist. 101, 102. Second semester. Credit, 2 hours.

213g *Contemporary Great Britain.* Survey of British political and cultural history since 1900. Prerequisites: Hist. 101, 102, or 105, 106. First semester. Credit, 2 hours.

214g *History of Russia and Eastern Europe.* A general survey of Eastern European and Russian history from ancient times to the present day. Prerequisites: Hist. 101, 102 or equivalent. Second semester. Credit, 2 hours.

215g *Great Personalities in American History.* Considers the contributions of noted Americans in the scientific, cultural, philosophical, economic, and political development of the United States. Prerequisites: Hist. 103, 104. Credit, 3 hours.

300 *Seminar in History.* Individual research work covering any field of history. Offered when demand is sufficient. Credit, 2 hours.

301 *Contemporary United States.* American political, social and economic history since 1900. Offered when demand is sufficient. Credit, 2 hours.

302 *Historiography and Historical Philosophy.* Studies in historical method and in the literature and theories of history. Offered when demand is sufficient. Credit, 2 hours.

Political Science

P. S. 101 *Introduction to Political Science.* Principles of government, and theories of law and the state. Second semester. Credit, 3 hours.

102 *State and Local Government.* Workings of the typical American

State government, and its principles of administration. First semester. Credit, 3 hours.

103 *Municipal Government*. Structure, methods and principles of American city governments and their administration. First semester. Credit, 3 hours.

104 *American Political Parties*. History of leading political parties, and principles of famous party leaders. Second semester. Credit, 3 hours.

200 *Constitutional Government*. National and Arizona government. Meets requirements for certification. Fourth year, second semester. Credit, 3 hours.

201 *Comparative National Governments*. Background of present-day typical governments, with consideration of the principles underlying each. Prerequisite: P. S. 101. First semester. Credit, 2 hours.

203 *Public Administration*. Practices and principles of government administration, chiefly in the United States. Prerequisites: P. S. 101, 102. First semester. Credit, 2 hours.

204g *International Law and Relations*. Principles and practices of national governments under the laws and customs of war and peace. Prerequisite: P. S. 101. Second semester. Credit, 2 hours.

205 *World Politics in the Pacific Area*. International problems of the Pacific area, and their background. Prerequisite: P. S. 101. First semester. Credit, 2 hours.

206g *Contemporary Political Thought*. Political ideas and philosophy from the French Revolution to the present. Prerequisite: P. S. 101. Second semester. Credit, 2 hours.

207g *The American Public Domain*. Political background and social-economic results of American national land policies. Prerequisites: Hist. 103, 104. First semester. Credit, 2 hours.

300 *Seminar in Political Science*. Individual research work in any field of political science. Offered when demand is sufficient. Credit, 2 hours.

Statistics

Summary of Registration 1947-48

COLLEGE

Resident Students—Regular Session

	Freshmen	Sophomores	Juniors	Seniors	Graduates	Total	
Men	1117	662	316	149	148	2392	
Women	370	228	189	141	157	1085	
	<u>1487</u>	<u>890</u>	<u>505</u>	<u>290</u>	<u>305</u>		3477
<i>Summer Session 1947</i>							
Men						735	
Women						725	
Total							<u>1460</u>
<i>Extension and Correspondence</i>							
Men						172	
Women						354	
Total							<u>526</u>
<i>Vocational Training Courses</i>							
Men						235	
Women						0	
Total							<u>235</u>
<i>Total Registration in College</i>							
Men						3534	
Women						2164	
Total							<u><u>5698</u></u>
<i>Counted More than Once</i>							
Men						545	
Women						310	
Total							<u>855</u>
<i>Net Enrollment</i>							
Men						2989	
Women						1854	
Total, net enrollment							<u>4843</u>
TRAINING SCHOOLS							
Boys						432	
Girls						439	
Total							<u>871</u>
GRAND TOTAL, NET ENROLLMENT							<u>5714</u>

Summary of Graduates 1947-48

Through May, 1947	6448		
Bachelor's degrees—May 26, 1948			
	Men	Women	Total
Bachelor of Arts	12	7	19
Bachelor of Arts in Education	66	92	158
Bachelor of Science	84	36	120
Total	162	135	297
Master's degrees—May 26, 1948			
Master of Arts in Education	22	16	38
Total	184	151	335
Through May, 1948	6783		

Bachelor of Arts In Education

Slibe Abounader	Margaret Jean Gallagher
Wendell Patterson Acuff	Leo E. Gardner
Margery Alexander	Ruby A. Gillespie
Howard Arlin Amerson	Melba Dykes Gilliam
Jack Richard Anderson	Louis Edwin Gittner
Augusta Marie Harris Appenfelder	Orson P. Greer, Jr.
Kathryn E. Arnhold	Cora Lovie Griffin
Nena Emma Bailey	Emily Dale Hagan
Edward Mason Barge	Madelen Cook Hamilton
Bernard G. Baumgartner	Marjorie Tom Handy
Kenneth Richard Beals	Betsy Ross Hayes
Grace May Beck	Parley Verl Heap
Amanda Blanche Camper Bell	Vera Jo Hendrix
June Mercedes Bell	Talmage Miles Herbert
Dorothy Walker Billingsley	Mildred Juanita Hershey
Paul D. Bishop	Lois Lucile Hibbs
Ethel Corbell Black	Eugene Frederick Hilton
Nora Mae Bowle	Ruth Marie Hinkle
Una Webb Bradley	Mildred Elizabeth Hirschey
James C. Brown	Eva Rhodes Johns
Minnie Leora O'Brien Brown	Alice Arguijo Jones
Alice Mildred Buell	Ina Wood Jones
Samuel Merton Burkhard	Katherine Judd
Anthony B. Bustamente	Catherine M. Kimberley
May Carpenter	Katherine Louise Kraft
Jane McKinnon Carter	Marilyn Lorayne Lee
Hazel Mary Champie	Alma Louise Lewis
Robert Walter Chastain	Vergil Henry Lewis
James Lee Christian	Wynell McCasland Lewis
Rosemary Clark	Cheryl Nix Long
Marjorie Elaine Cochran	Laura Wells Long
Eleanor J. Cohen	Bertha Austin McCaw
Sarah W. Cooley	Constance de Roulhac McFaddin
Annie Jean Cox	Dorothy Corinne McKenzie
Richard Dean Davis	Nancy McMichael
Kenneth Wozencraft de Roulhac	Marla Mangum
John S. Dow	Elizabeth Jean Massengill
Martha H. Drake	L. Earl Matteson
Delle M. Durkin	Marjory Ruth Menard
Josephine Jerry Edwards	Dorothy George Merchant
Thelma V. Ellis	Pauline Elizabeth Merritt
Jessie L. Peterson Ellsworth	Robert Olinger Mock
Dorothy Louise England	M. Edward Mondini
Darl Lewis Englehart	Ruth Fry Morris
Robert Milner Fetz	David Franklin Moser
Roline S. Flach	Antoine Rowe Naegle
Bertha Catherine B. Forbes	Esther Jones Narramore
John M. Friday	Ruby Sharpe Nutter

James Joseph Odou
 John Francis O'Neal
 Hester Alice Packard
 John Rex Palmer
 Charlotte Louise Patterson
 Edith L. Pearson
 Rex E. Phelps
 James S. Phillips
 Marjorie Ann Price
 Jane Elizabeth Pruitt
 Lois Evelyn Rees
 Samuel Renteria
 Frances Elizabeth Rhodes
 Sharell Richey
 Geraldine Rosellen Riordan
 Harry Ervin Rissell
 Cynthia Elizabeth Roach
 John Charles Roberts
 Henry Albert Rockwell
 Evelyn Clifton Sauve
 Eugene Bliss Schooler
 Neil Warren Sherman
 Mauretta Shumway
 Clarence Leon Sirrine
 Marie Therese Smith
 Roy Smith
 Annette Alberta Stafford
 Betty McGaugh Stangeland
 James Paul Stangeland
 Joe Newby Stultz
 Geraldine Katherine Sullivan

Nora Frances Sullivan
 Marjorie Ray Sumrell
 Anne Barta Sutcliffe
 Phoebe Jean Sutton
 Margie Faye Tate
 Esther Lenore Townsend
 Eugene C. Tubach
 Roy L. Tuley
 Keith Leon Turley
 Ida Janice Udall
 Al Van Hazel
 Betty Jean Waples
 Irma Ree e Warren
 Morrison F. Warren
 Maude Phillips Weems
 Loretto Hewitt Whalen
 Esie Allan White
 Jessie Irene Wien
 Harriett D. Wiley
 Caroline Larrick Wilkins
 John Norman Willey
 Wallace Eugene Willey
 Dorothy Elizabeth Williams
 Hubert E. Williams
 James Marshall Williamson, Jr.
 Ethel Lenore Witt
 John Robert Wolff
 George Andrew Woods
 Kenneth Ray Woods
 William Miller Zimmerman
 Milton Mordecai Zuroff

Bachelor of Arts

E. Douglas Brooks
 Harold Newman Byrn
 Alice Creasman
 Frances Fleming
 Delmar Brady Jackson
 Lois Caroline Klein
 Jack Spencer McClain
 Denver Eugene McWilliams
 June M. Moore

Sherman Rodgers Payne
 George Wayland Peck
 L. Eleanor Phillips
 Elsie Mary Pivvel
 George Enos Reed
 William Jap Renshaw
 Harold Lloyd Stauffer
 Elizabeth Alma Stover
 Opal Snarr Wilson

Vincent Joseph Wilson, Jr.

Bachelor of Science

June Lola Akin
 Barbara Jean Algeo
 Richard Rada Amado, Jr.
 Bayard McIntosh Atwood, Jr.
 Bryan D. Baker, Jr.
 John Wesley Baker
 William Walther Ballard
 Andrew Baumert, III
 Philip William Beaumont
 Barbara Jean Elaine
 Adrian Conrad Bos
 Walter F. Boyd
 Harold Brown
 John Lewis Brown
 George William Cerrille
 William Christy Cavin
 John Edward Chilton
 Robert Patterson Clark, Jr.
 Carolyn Annette Cobb
 Daniel F. Cline, Jr.
 James Wallace Conrad
 Alexander Aguirre Cordova
 Ellen Elizabeth Crumaker
 Robert Oscar Cummins
 Clayton James Dean
 Grace A. Diem

Robert Wesley Dobson
 Charles Ab Downing
 John Clements Dunn
 Vurlyne A. Ellsworth
 Robert Logan Eskridge
 Paul Edward Essex
 Richard Guthrie Evans
 Stuart Evans
 George Philip Fagan
 John Ray Fawcett
 John W. Fetter
 Harold Gregory Field, Jr.
 Marilyn Jean Field
 Luther Eugene Finley
 Jean Alma Fitzreiter
 Ralph Edward Frantz
 Arthur Randall Fry
 Max A. Fuller
 Milton Eugene Fuller
 Loyd Franklin Galeyan
 Frank Michael Gasperak
 Betty Lee Goulding
 Clarice Harper Groves
 Roger Thomas Guiney
 Henry Head Gwillim
 Theodore Hammons

Shirley Rae Harlan
 Joseph George Hartsig
 Muriel Carney Hendrickson
 Franklin P. Hill
 Richard Romer Hulse
 Gordon Burnham Hutchison
 Norma E. Hutchison
 William H. Isaacson, Jr.
 Louise Mary Jaanus
 William Truman James
 Patricia Gibbons Kelley
 Roberta Kelsey
 John Howard Killingsworth
 Robert Edwin Kruff
 Don Landy
 Charles Leon Lane, Jr.
 Leo Robertson LeSueur
 Walter Levi
 Joseph York Lilley
 Carl Cornelius McCallus
 Betty Mead McCubbin
 Virginia Keller Maresca
 William Thomas Menderson
 Thomas Eugene Moore
 Charles Byron Mothershead
 Joe Bob Neely
 Charles Anthony Neri
 Grace Margaret Niehuis
 Joseph Gen O'Haver
 Dorothy Peterson Palm
 Patricia Elnor Parker
 Robert Andrew Pentland
 Kyle Karr Pierce
 Edward Everett Pigg

Talmage Emerson Pomeroy
 Allen Wilson Rand
 Norma Jean Rawlins
 Manuella Katherine Rideau
 Frances Kathleen Riordan
 JoAnna Faye Robber on
 Janice Toby Rosen
 Rue Edward Rush
 William Jay Salomon
 Henry Stephen Saylor
 Joseph Beverly Setter
 Marjorie June Shuck
 Joseph Sincoff
 Mayme Phillips Skinner
 Dilmor Kasenberg Smith
 Lehi Tingan Smith
 Milton Stamatis, Jr.
 Glenn Orth Stapley
 William Henry Stowe
 Mary Suderman
 Clay Sumrell
 Patricia Ann Tedrick
 Nicholas Clyde Theodore
 C. Lawrence Thomas
 Lorraine Bertha Tiedeman
 Robert M. Trent
 Robert Campbell Wallace
 Edward Michael Welniak
 Dorothy Estelle Wiegand
 Raymond Wendell Williams
 Betty Williamson
 Annamae Dell res Wintakger
 Walter James Wood
 Lora Lee Wright

Master of Arts In Education

Eileen Trimble Baker
 Mary Jane Beattie
 Mabel Hughes Blue
 Glen Harold Bradford
 Arthur Leroy Callaway
 Esther Oakes Carson
 William Alexander Cavalliere
 Paul Ubert Congdon
 Isabel Daou
 Albert Dean
 Esther V. Den Hartog
 Dee M. Emme
 Ella F. Frazier
 Gladys Gertrude Gollong
 Weltha Ann Graham
 D. Virgil Hays
 William M. Kajikawa
 Patrick Harold Lebs
 Wen Hslu Liu

Margaret Lopp
 Vearl Gordon McBride
 William Circe McClellan
 Addie Catherine Blake Miner
 Robert R. Nardelli
 Laura Ensworth Oakley
 Albert Joseph Onofrio
 Viola Ramsey
 Willard Parker Riddles
 Reah Belle Ritchie
 La Roy De Var Saline
 Fred Karlis Schade
 Marvin David Smith
 Ronald Gardner Thomson
 Thomas Edward Thorpe, Jr.
 Martha Helen Todd
 Clare A. Van Hooebeke
 John Robert Wolff
 George Andrew Woods

Senior Honors, 1948 With High Distinction

Kathryn E. Arnhold
 Bayard McIntosh Atwood, Jr.
 Walter P. Boyd
 William Christy Cavin
 Daniel E. Conley, Jr.
 Grace A. Diem
 Stuart Evans

William H. Isaacson
 John Howard Killingsworth
 Denver Eugene McWilliams
 Virginia Keller Maresca
 Antoine Rowe Naegle
 George Enos Reed
 Walter James Wood

With Distinction

Wendell Patterson Acuff John Wesley Baker William Walther Ballard Kenneth Richard Beals E. Douglas Brooks Harold Newman Byrn John Edward Chilton Alexander Aguirre Cordova Alice Creasman Charles Ab Downing Harold Gregory Field Marilyn Jean Field Frances Fleming Ralph Edward Frantz Milton Eugene Fuller Loyd Franklin Galyean Clarice Harper Groves Roger Thomas Guiney Henry Head Gwillim Betsy Ross Hayes Richard Romer Hulse Gordon Burnham Hutchison Norma E. Hutchison Delmar Brady Jackson Eva Rhodes Johns	Lois Caroline Klein Charles Leon Lane, Jr. Carl Cornelius McCallus Jack Spencer McClain Betty Mead McCubbin Dorothy George Merchant Pauline Elizabeth Merritt Grace Margaret Niehuis James Joseph Odou John Rex Palmer Patricia Elinor Parker Edward Everett Pigg Henry Stephen Saylor Joseph Beverly Setter James Paul Stangeland Elizabeth Alma Stover Anne Barta Sutcliffe Nicholas Clyde Theodore Robert M. Trent Morrison F. Warren James Marshal Williamson, Jr. Vincent Joseph Wilson, Jr. Annamae Dellores Wintakger John Robert Wolff George Andrew Woods
Kenneth Ray Woods	

Awards

Alumni Scholarship	Nena Bailey, Betsy Hayes, Sherman Payne, Morrison Warren
Aristavet's Award	Sherman Payne
Arizona Society of Public Accountants' Award	Walter P. Boyd William Isaacson
Associated Men Students' Award	William Isaacson
Dunbar Award	Morrison Warren
English Department Prize	Alice Creasman
Gibbons Award	Betsy Hayes
Home Economics—Beta Chi Award	Grace Diem Patricia Parker
Kappa Delta Pi Pin	Grace Diem
Krause Science Award	Milton Fuller
Moeur Medal	Grace A. Diem
Moeur Pin	Antoine R. Naegle
Mu Rho Alpha Award	Alice A. Jones
Physical Education Award	Katherine Kraft
Tempe Daily News Journalism Award	Keith Turley
Theta Chi Epsilon Art Award	Jack McClain George Reed
West Hall Award	Opal Wilson

Gifts and Bequests

Public-spirited individuals in increasing numbers are making gifts of money or are bequeathing part or all of their estates to the educational institutions of their choice.

Arizona State College at Tempe is a growing, progressive institution, and the State of Arizona has not been able to care for some of its special needs. Individuals with money can make their influence felt with present and future generations of young people by making gifts or bequests to the College.

Some donors name the fund given for themselves, or for a wife, son, or daughter. An investment in growing personality is a long-time investment. Moreover, it pays large dividends, and these dividends continue long after the investor is gone.

The needs are many and urgent. The student loan fund is far too small. The College should have many more scholarships for worthy students. 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

CONCERNING

Catalogs
General Information
Admission
Transcripts
Evaluation of Records
Instruction and Curriculum

} Write.....OFFICE OF REGISTRAR

Student Progress
The Summer Session

} Write.....DEAN OF THE COLLEGE

Extension Classes
Correspondence Courses

} Write.....DIRECTOR OF EXTENSION

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 and
Commercial Placement

} THE PLACEMENT BUREAU

Educational Policies
Administrative Questions

} Write.....THE PRESIDENT

ARIZONA STATE COLLEGE AT TEMPE

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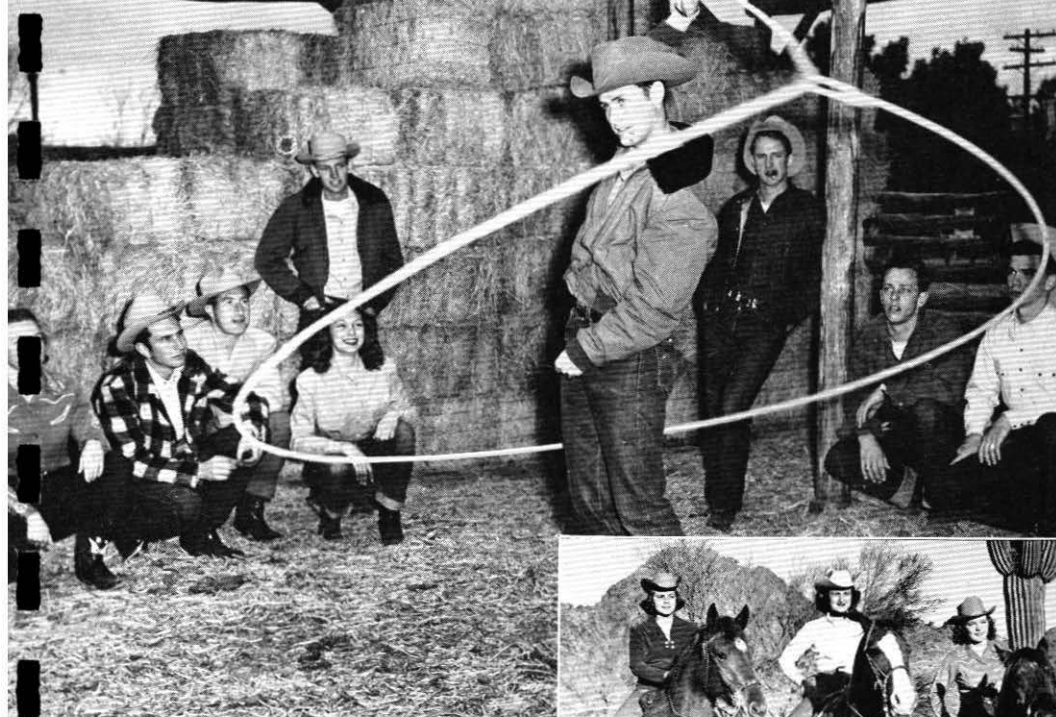
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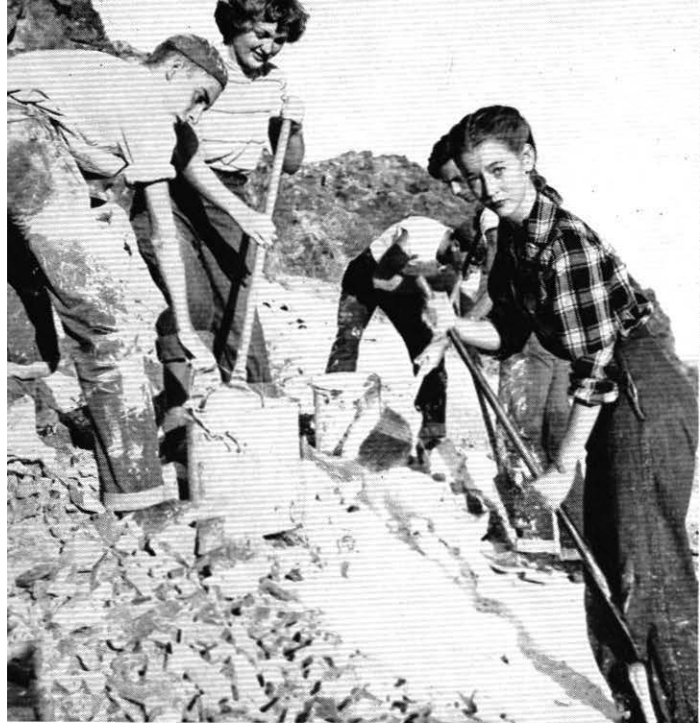
Yippee! cowboy! The old west reigns supreme during collegiate rodeo time.



From singing to ROTC . . . that's student life at Tempe.



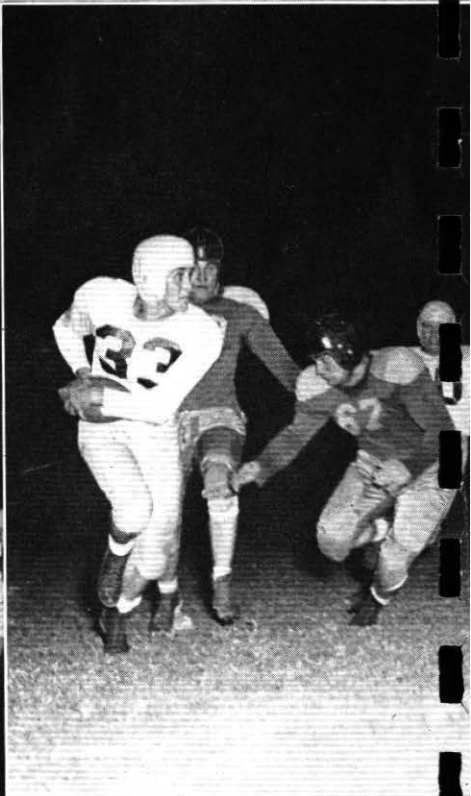
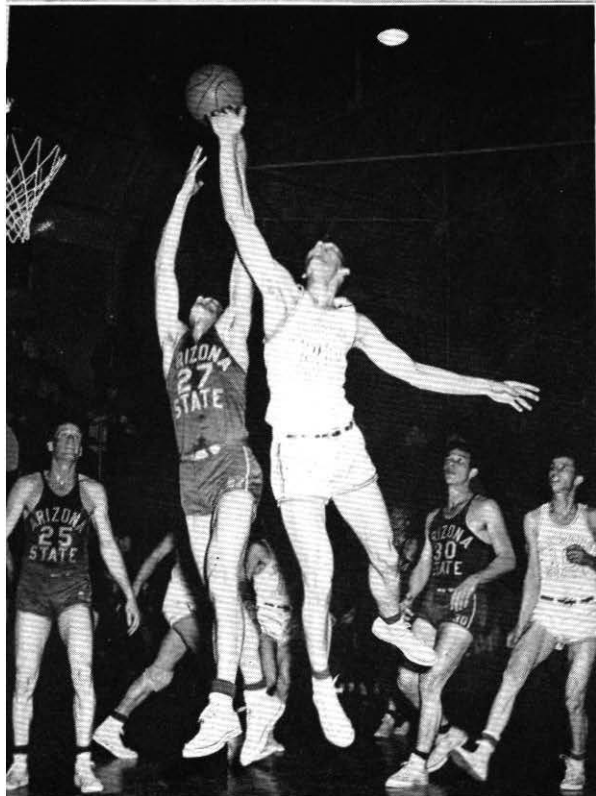
Healthful outdoor sports are zestfully enjoyed by coeds on the roomy ASC campus.



Freshmen really have fun at traditional Fall activities planned for enjoyment.



Keen student interest in the fine arts is an ASC characteristic.



The Sun Devils are respected competitors in all major collegiate sports.



Campus dances . . . the highlights of student dormitory life.



Field trips into Arizona's great natural wonderlands are regular campus events.