

BULLETIN

Arizona State
College TEMPE
ARIZONA

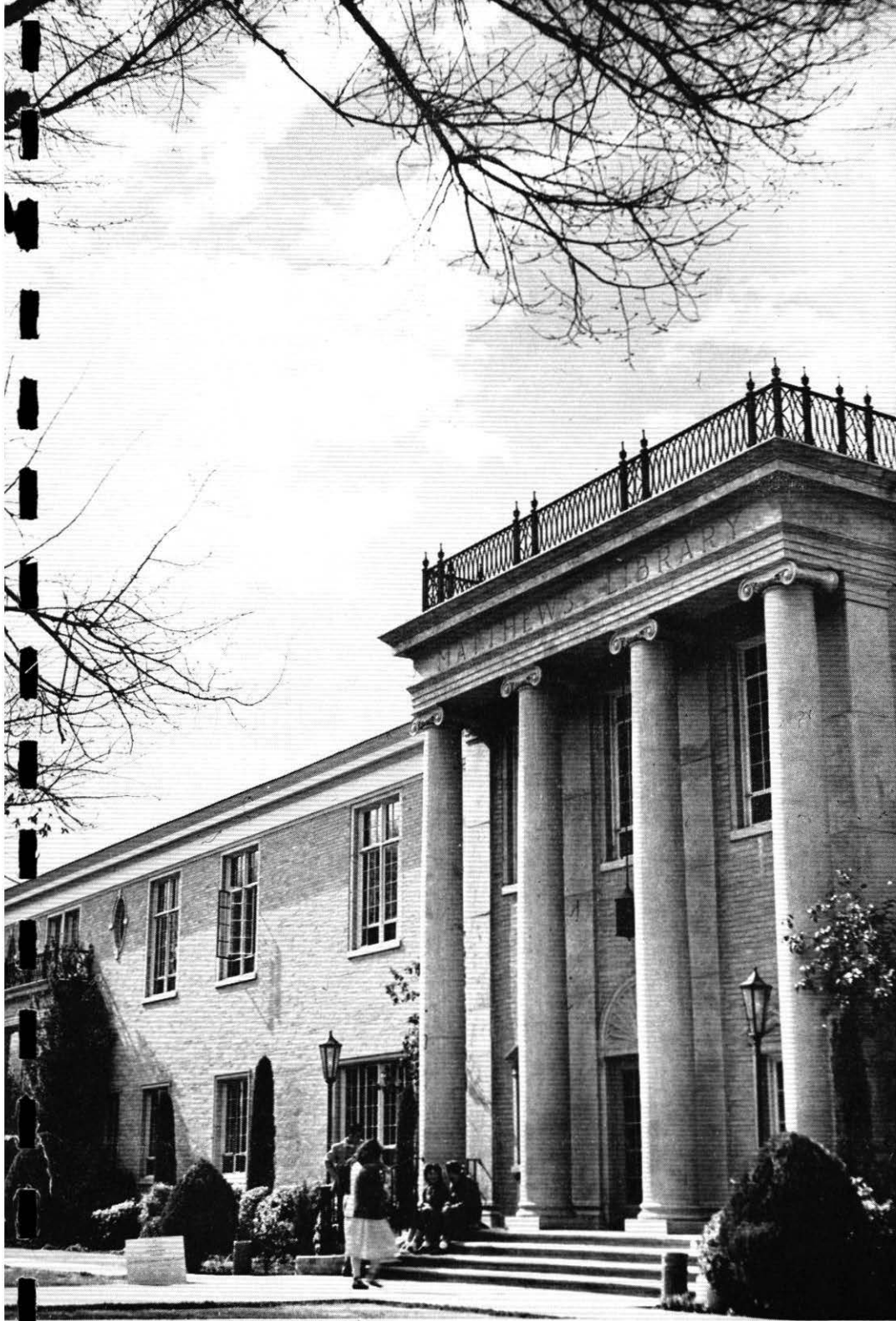
1950 - 1951 GENERAL CATALOG

GENERAL SERIES

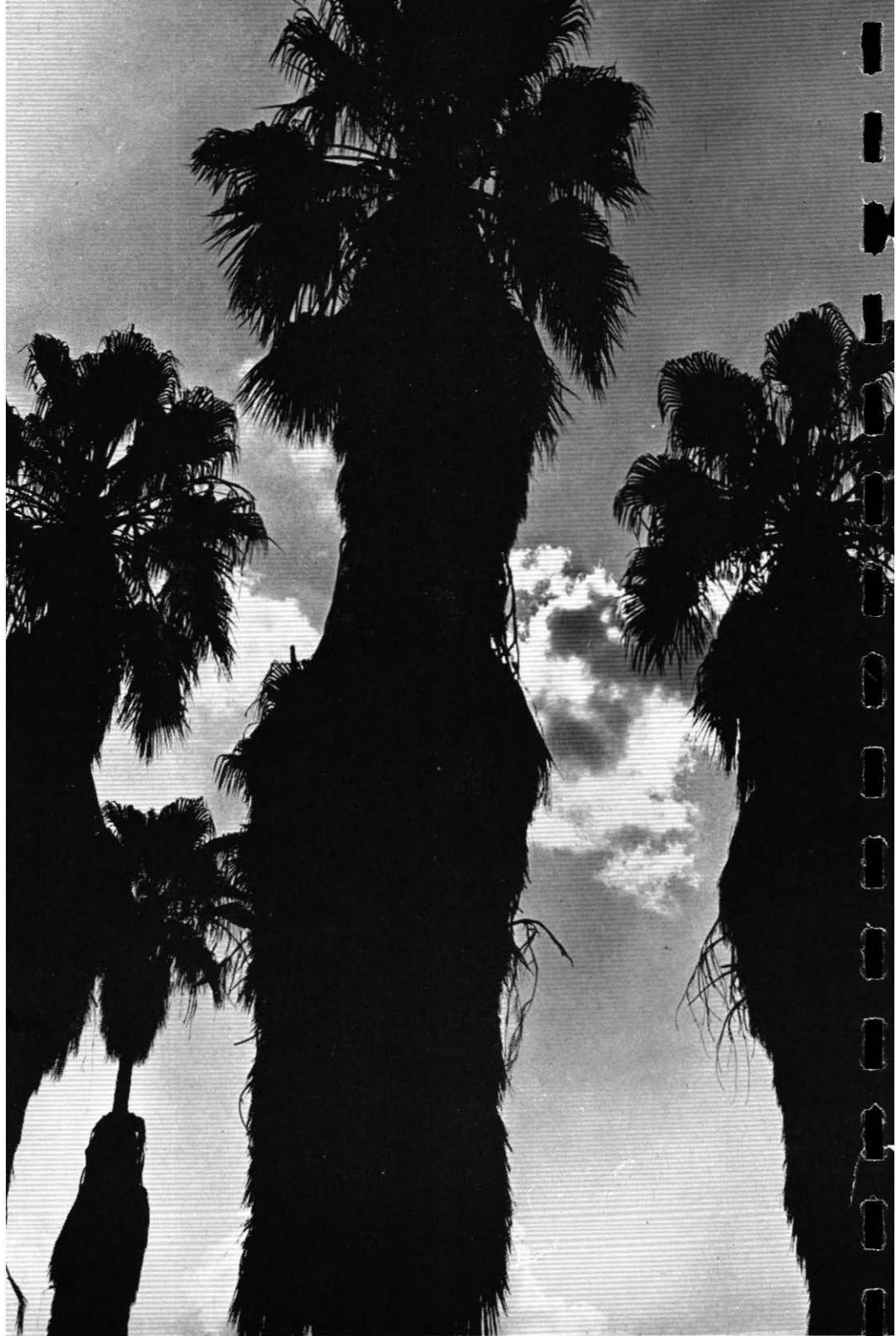
APRIL, 1950

NO. 82

PUBLISHED MONTHLY, AND ENTERED AS SECOND CLASS MATTER,
NOVEMBER 30, 1931, IN THE POST OFFICE IN TEMPE, ARIZONA,
UNDER THE ACT OF AUGUST 24, 1912.



Matthews Library . . . a center of learning at ASC.



Gracious campus palms form a silhouette of beauty.



Students find ample opportunity for quiet study, applied courses.



Frequent social activities are enjoyed by ASC students.



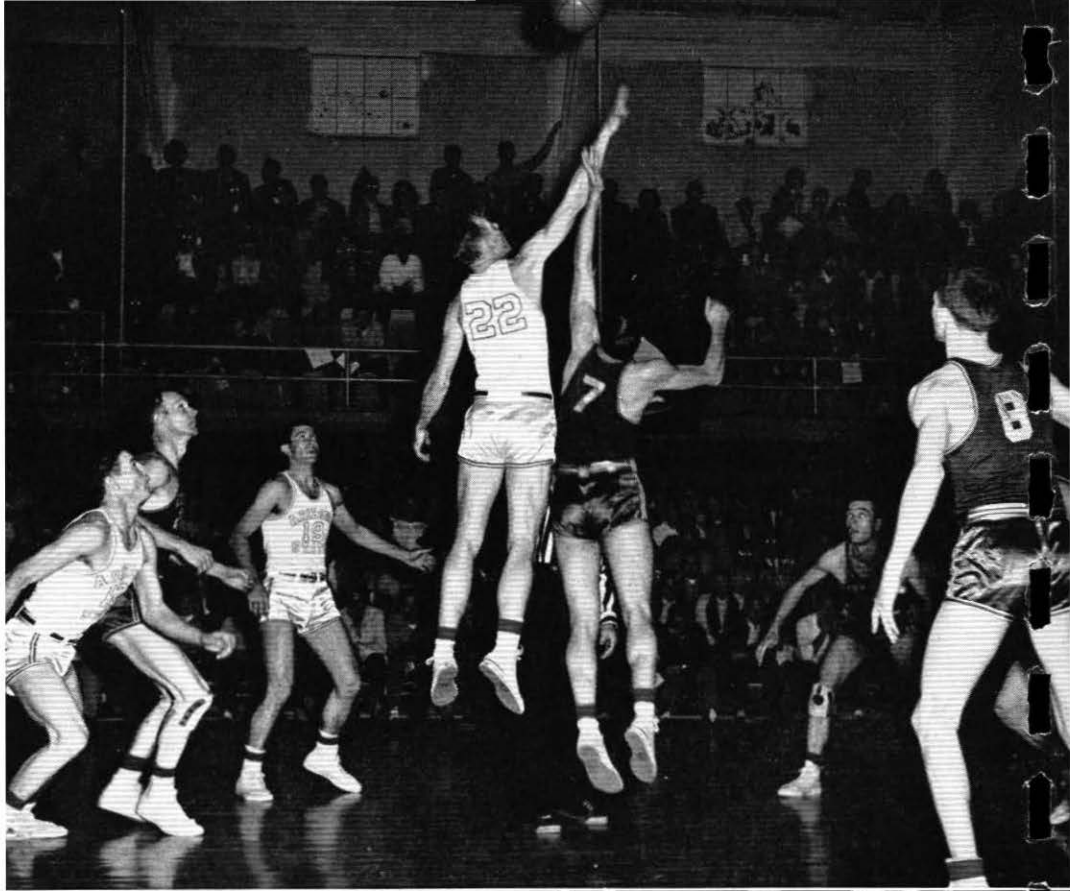
Expert guidance and counseling are available to meet individual needs.



Students enjoy the most modern classroom facilities.



Ride 'im, cowboy! Always exciting is collegiate rodeo time.



Sun Devil athletic teams are highly respected competitors.

BULLETIN OF
Arizona State College

TEMPE, ARIZONA



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CATALOG ISSUE FOR THE YEAR 1950-51

PUBLISHED MONTHLY, AND ENTERED AS SECOND CLASS MATTER,
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GENERAL SERIES APRIL 1950 NUMBER 82

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College Calendar, 1950-51

Fall Semester

Faculty Planning Conference	Sept. 7, 8 Thurs., Fri.
Residence Halls and Dining Hall Open.....	Sept. 10, Sun.
First Freshman Assembly	Sept. 11, Mon., 8:30 a.m.
Orientation and Guidance for Freshmen and Transfer Students	Sept. 11, 12, 13 (All Freshmen and Transfer Students are expected to be in attendance on these days for the special orientation programs, aptitude tests and physical examination.)
Registration Days	Sept. 12, 13, 14, 15 to noon Sept. 16
Freshmen Students will Complete Registration and Pay Fees	Sept. 14, 15, to noon Sat., Sept. 16
Sophomores, Juniors, Seniors and Graduates receive Registration Materials and Complete Registration.....	Sept. 12, 13, 14, 15, to noon Sept. 16
Instruction Begins	Sept. 18, Mon.
Last Day of Registration for Credit	Sept. 30, Sat. noon
Deficient Scholarship Reports Due	Nov. 10, Fri., 4:00 P.M.
Armistice Day—No Classes	Nov. 11, Sat.
Thanksgiving Recess	Nov. 22, Wed. 9:00 p.m. to Nov. 27, Mon. 8:00 a.m.
Christmas Vacation	Dec. 16, Sat. noon to Jan. 2, Tues. 8:00 a.m.
Final Examinations	Jan. 19, 22, 23, 24, 25, Fri., Mon., Tues., Wed., Thurs.
First Semester Grade Reports Due	Jan. 26, Fri., 4:30 p.m.

Spring Semester

Residence Halls Open to New Students	Jan. 26, Fri. Noon
New Freshmen and Transfer Students Get Registration Materials, Take Aptitude and Physical Examinations	Jan. 26, 27 Fri., Sat.
Registration Days	Jan. 30, 31 Tues., Wed.
(All Students Will Complete Registration and Pay Fees)	

Instruction Begins, Second Semester	Feb. 1, Thurs.
Last Day of Registration for Credit	Feb. 14, Wed.
Deficient Scholarship Reports Due	Mar. 22, Thurs. 4:00 p.m.
Easter Vacation	Mar. 22, Thurs., 9:00 p.m. to Mar. 27, Tues. 8:00 a.m.
Senior Scholarship Reports Due	May 14, Mon. noon
Graduate Scholarship Reports Due	May 14, Mon. noon
Honors Assembly	May 18, Fri., 11:00 a.m.
Baccalaureate Service	May 20, Sun.
Commencement Exercises	May 22, Tues.
Final Examinations	May 21, 22, 23, 24, 25, Mon., Tues., Wed., Thurs., Fri.
Final Semester Grade Reports	May 28, Mon. Noon

Summer Session

Pre-Session Begins, Registration	May 26, 8:00 a.m. to 12:00 noon
Pre-Session Ends	June 2, Sat. noon
First Summer Session Begins, Registration	June 4, Mon.
First Summer Session Ends	July 7, Sat.
Second Summer Session Begins, Registration	July 9, Mon.
Post Session Registration	July 14, Sat.
Second Summer Session Ends	Aug. 11, Sat.
Post Session Begins	Aug. 13, Mon.
Post Session Ends	Sept. 1, 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
SAM 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
 FRED CRAWFORD, Ed.D. - - - Director of Graduate Study
 ROY C. RICE, Ph.D. - - - - Director of Summer Session
 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

Officers of Instruction

1949-50

- GAMMAGE, GRADY - - - - - President of the College
B.A., M.A., LL.D., Arizona; Ed.D., New York
- ACREE, THOMAS M., M/SGT. - - Instructor in Military Science
- ALLEN, STANFORD N. - - - - - Instructor in Agriculture
B.S., Arizona
- 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. - - - Assistant Professor 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
- BARNES, CHARLES A. - - Assistant Professor in Psychology
B.A., University of California, A.S.T.P., University of Oregon; Ph.D.,
University of California
- BARRETT, THOMAS W. - - Assistant Professor of Agriculture
B.S., Brigham Young; M.A., Ph.D., Cornell
- BACHELOR, 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
- BEHLING, HARVEY W., SGT. 1/C - Instructor in Military Science
- 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. - - - Assistant Professor 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
- BUDYNKIEWICZ, THADDEUS J. - - Freshman Football Coach
B.S., Notre Dame
- BULLOCK, ARNOLD - - - - - Associate Professor of Music
Mu.B., Yale; M.A. in Ed., Arizona State, Tempe
- BURK, KARL W. - - - - - Instructor in Industrial Arts
B.A., M.A., 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
- CAVALLIERE, WILLIAM A.** - - - - - Asst. Professor of Industrial Arts
B.A. in Ed., M.A. in Ed., Arizona State, Tempe
- CHRISTENSEN, JOHN E.** - - - - - Assistant Professor of Geography
B.A. in Ed., M.A. in Ed., Arizona State, Tempe
- CONLIN, DAVID A.** - - - - - Assistant Professor of English
A.B., Syracuse; Ph.D., Yale
- CRAWFORD, FRED** - - - - - Associate Professor of Education
and Director of Graduate Study
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
- DEVLIN, IDA** - - - - - Instructor in Health and Physical Education
B.A., Fresno State; M.A., Stanford
- DEWATER, GARTH L., M/SGT.** - Instructor in Military Science
- D'ORSSAUD, SUZANNE** - Assistant Professor of Foreign Languages
A.B., France (Honorary Mention); 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
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B.S., Bowling Green State; M.A., Columbia
- ELDRIDGE, KELLY II.** - - - - - Assistant Professor of Biology
B.S., M.S., University of Utah; Ph.D., Stanford
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B.S., Brigham Young; M.A., Columbia
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A.B., San Diego State; M.A., Claremont; Ph.D., Cornell
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and Hostess at the Home Management House
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B.A. Mount Union; Ph.D., Wisconsin
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B.A., Geneva; M.A., Pittsburgh
- FULLER, GERALD R. - - - Instructor in Agriculture
B.S., Arizona; M.S., Agricultural and Mechanical, Texas
- *GALE, NITA - - - Teacher of Voice
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- GENTRY, FRANK C. - - - Professor of Mathematics
B.A., M.A., Oklahoma; Ph.D., Illinois
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- GOODWIN, JOHN B. - - - Assistant Professor of Industrial Arts
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- GRANGER, ROBERT L. - - - Instructor in Brass Instruments
B.A., Iowa State; M.M., Conservatory of Music, Boston
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B.S. in Ed., Oshkosh State T. C.; M.A., Northwestern
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- *MILLER, CLOTILDE F. - - - - Instructor in Music
B.A. in Ed., Arizona State, Tempe
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- MORPENSEN, MARTIN - - - - Associate Professor of Biology
B.A., Brigham Young; M.A., Arizona

* Part Time

§ On Leave

- MOUNT, DICK** - - Assistant Professor of Business Administration
B.A., Simpson; M.A., Drake
- MURPHY, NINA L.** - - - - Professor of Physical Education;
Director, Women's Physical Education
B.S. in Ed., Arizona; M.A., Southern California
- *MYERS, JOHN M.** - - - - Special Lecturer in Creative Writing
- MYERS, LOUIS M.** - - Professor of English; Head of Department
B.A., St. Stephens; M.A., Columbia; Ph.D., California
- NEEB, LOUIS S.** - Professor of Industrial Arts; Head of Department
B.A., M.A., Arizona
- NESS, HOWARD L.** - - - - Assistant Professor of Economics
M.B.A., Northwestern; LL.B., University of Toledo
- NEWTON, SCARBORN W., T/SGT.** - Instructor in Military Science
- NORTON, NAOMA** - - - Assistant Professor of Home Economics
B.A., Highlands; M.A., Colorado A. & M.
- ONOFRIO, ALBERT J.** - Assistant Professor of Physical Education
B.A. in Ed., M.A. in Ed., Arizona State, Tempe
- OSENBURG, FREDERIC C.** - - - - Associate Professor of English
B.A., M.A., Michigan; Ph.D., Illinois
- PARKER, ERNEST L.** - - - Assistant Professor of Agriculture
Ph.D., Leipzig, Germany
- PAYNE, IRA DAWSON** - - - - Professor of Education;
Director of Teacher Training
B.A., M.A., Stanford
- *PICKETT, HELEN** - - - - Instructor in Home Economics
A.B., M.A., Arizona State, Tempe
- PILCHER, EDITH BLANCHE** - - - Associate Professor of English
B.A., Kansas; M.A., Columbia
- PLOCK, EDNA L.** - - - Assistant Professor of Physical Education
B.S., M.A., Ohio State
- *PLUMMER, ROBERT N.** - - - - Professor of Speech Pathology
B.S., Oklahoma A. & M.; M.A., George Peabody; Ph.D., Louisiana
- *PODLICH, WILLIAM F.** - - - Assistant Professor of Education
B.S., Maryland S. T. C.; M.A., Columbia; Ph.D., Iowa
- PORTNOFF, COLLICE H.** - - - - Professor of English
B.A., M.A., California; Ph.D., Stanford; F.A.A.R., M.A., American
Academy in Rome
- QUAID, HAZEL HARVEY** - - - - Associate Professor of Music
B.A. in Ed., Arizona State, Tempe; M.A. in Mus. Ed., Northwestern
- QUINN, WILLIAM** - - - - Assistant Football Coach
B.S., Boston
- RANNELLS, JESSIE M.** - - - - Professor of Home Economics;
Head of the Department
B.S., Iowa State; M.S., Cornell; Ph.D., Wisconsin
- RASMUSSEN, ROBERT** - Assistant Professor of Animal Husbandry
B.S., Iowa State; M.S., Washington State

* Part Time

- RAWLS, WILLIAM S.** - - - - - Instructor in Physics
B.S., Murray State; M.S., Tulane
- RICE, ROY C.** - - - - - Professor of Education; Director
of Summer Session
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
- RUTH, WALTER** - - Assistant Coach, Instructor in Physical Education
A.B., Arizona State, Tempe
- SANDERSON, R. PHILLIPS** - - - - - Assistant Professor of Art
School of the Art Institute, Chicago; Kansas City Art Institute
- SANSCRAINTE, GENEVIEVE R.** - - - - - Instructor in Art
B.S., M.A., Ohio State University
- SARDIGA, J. BRYCE** - - - - - Assistant Professor in Business
Administration
Ped.B., Ind. Cen. Coll.; B.S., Susquehanna; M.A. in Educ., Hardin-Simmons; M.A. in Bus. Educ., New Mexico Highlands
- SAYRE, MILDRED B.** - - - - - Dean of Women; Chairman of the
Division of Student Affairs
B.S., Ph.M., Wisconsin
- 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; C.P.A., Arizona
- 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
- SMITH, V. MITCHELL, JR.** - - Assistant Professor of History
A.B., M.A., Ph.D., University of Texas
- 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
- STEVerson, NORRIS J.** - Assistant Professor of Physical Education
B.A. in Ed., Arizona State, Tempe; M.S., U.S.C.
- STEWART KENNETH M.** - - - Associate Professor of Sociology
A.B., M.A., Ph.D., California

- TAYLOR, LOUIS - - - - - Assistant Professor of English
B.S. in Ed., M.A., Ohio State
- THOMAS, HERMAN L. - - - Associate Professor of Agriculture
B.S., Brigham Young University; M.S., Iowa State
- 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
- TODD, JOHN E. - - - - - Instructor in Foreign Languages
A.B., San Jose State; M.A., Stanford
- TURNER, F. BERNADETTE - - Associate Professor of Sociology
B.S., Minnesota; M.A., Northwestern; Ph.D., Washington University
- 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
- *WALL, ANNA S. - - - - - Special Instructor in Russian
B.S., University of Idaho
- WELSH, RICHARD K. - - - - - Instructor in English
A.B., DePauw
- WEXLER, CHARLES - Professor of Mathematics; Head of Department
B.S., M.S., Ph.D., Harvard
- WILLIAMS, O. O. - - - Special Lecturer in Medical Technology
at Good Samaritan Hospital
B.S., M.D., Vanderbilt University
- WILSON, LORETTA - - - - - Instructor in English
B.A., South Dakota; M.A., Northwestern
- WILSON, IRMA - - - - - Acting Head of Department
Professor of Foreign Language
B.A., Montana; M.A., Ph.D., Columbia
- WOOD, HAROLD - - - - Special Lecturer in Medical Technology
at St. Joseph's Hospital
M.D., Tufts College
- 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

* Part Time

- *ZACHER, OLENE - - - - - Instructor in Mathematics
 B. A. in Math.; M. A., University of Alabama
- ZIMMERMAN, J. E. - - - - - Associate Professor of English
 and Administrative Assistant
 B. A., M. A., Baylor

Training School Staff

- COOL, DWIGHT W. - - - - - Principal
 B. A., Colorado; M. A., Colorado State
- ASHBY, NANCIE I. - - - - - Lunchroom Supervisor
- 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, VIRA 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
- O'DONNELL, JOHN F. - - - - - Seventh Grade
 B. S., M. S., New York State Teachers College
- ROBBINS, W. KATHERINE - - - - - First Grade
 B. A., Central Washington; M. A., Iowa
- ROBINSON, DOROTHY F. - - - - - Fifth Grade
 B. A., M. A., Southern California
- STEPHENSON, RUTH - - - - - First Grade
 A. B., Western State College; M. A., University of Michigan
- 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

* Part Time

Matthews Library Staff

BATCHELOR, H. W.	Librarian
B.A., Oregon; B. S., M.S. in L.S., Illinois	
BOVEE, ROSEMARY J.	Library Clerk
BRUCE, KATHERINE	Circulation Librarian
A.B., Park College; University of Denver Library School	
CORY, LUELLE	Second Reference Librarian
A.B., Kansas; B.L.S., Illinois	
HARMONY, MARY ANN	3rd Catalog Librarian
M.S., U.S.C.; B.S.S., Oklahoma College for Women	
KRUMBOLTZ, ALTHEA M.	Acquisitions Librarian
Ph.B., B.L.S., University of Chicago	
LARSEN, ROBERT G.	Library Clerk
B.S., Arizona State, Tempe	
MALONE, CLARE L.	3rd Reference Librarian
B.S., Nebraska State; M.A., B.L.S., Columbia	
OVERTON, ISABEL	Library Clerk
PHILLIPS, RUTH F.	Second Catalog Librarian
B.A., Cornell College; Library Science Certificate, Wisconsin	
TERRILL, CHARLOTTE	Library Clerk
WHITWELL, DORIS	First Reference Librarian
B.A., Baldwin-Wallace; B.S. in L.S., Western Reserve	

Assistants in Administration

ADAMS, PHYLLIS B., A.B.	Head Resident, South Hall
ALVAREZ, JOSEPHINE	Assistant, Registrar's Office
ARNHOLD, KATHRYN, B. A.	Film Librarian
ASHLEY, ALETHA	Assistant to Dean of College
BAAS, BARBARA	Secretary, Comptroller
BAUGH, ROBERT S.	Assistant, Business Office
BAUMGARTNER, LUELLE M.	Secretary, Registrar's Office
BELETZ, V. V.	Chief, Veterans Billing; Liaison, Vocational School
BISSET, DRUMMOND	Trainer, Intercollegiate Athletics
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
BURGES, LOVATT F. E., B.S.	Assistant, Business Office
CALLAWAY, ARTHUR L., M.A. in Ed.	Assistant Registrar; Veterans' Adviser

CASTILLO, SENON A., B.A. - Assistant, Intercollegiate Athletics
COGNAC, EILEEN - - - - - Admissions Stenographer,
Registrar's Office
CONNOLLY, GRACE - - - - - Stenographer, Student
Teaching and Placement Office
COOK, DONALD G. - - - - - Clerk, Veterans Accounts
COOK, EVELYN C., B.S. - - - - - Secretary, Industrial Arts
CRANCE, T. T., A.B., C.P.A. - Office Manager, Business Office
CREASMAN, JAMES W., A.B. - - - - - Alumni Secretary
DAVIES, MADOC W., M.A. - - - Head Resident, East Hall
DECHANSO, MARY ELLEN - - - Assistant, Registrar's Office
*DES JARDIN, MARGARET - - Piano Accompanist, Women's P.E.
DIXON, GERALDINE, B.S., M.S. - Director, Student Activities
DOBBS, LAURA - - - - - Assistant, Business Office
DUBLIN, ARLENE F. - - Supervisor, Mimeograph Department
EARLE, LOIS P., A.B. - - - - - Clerk, Business Office
EBERHARDT, DOROTHY - - - - - Secretary, Director of
Graduate Study
*FANFARILLO, PAULINE - - Piano Accompanist, Women's P.E.
FANNING, PEARL - - - - - Kitchen Supervisor
FRIDAY, ROY REINER - - - - - Assistant, Business Office
GANSERT, DORIS - - Secretary, Division of Student Affairs
GREEN, MAVIS A., B.A. - - - Claims Clerk, Business Office
HALL, MARTHA J., B.A. - - - - Head Resident, North Hall
HAYDEN, SALLIE DAVIS - - - Head Resident, Matthews Hall
HENDRINSON, MARY ELAINE, M.N., R.N. - - - - - Director
Student Health Service
HUGHES, T. J., B.S., M.D. - - - - - College Physician
KEAGAN, MARY S. - - - - Stenographer, Military Science
KEEGAN, PEGGY L., B.S. - - Director, Student Employment
KETTERING, SUZANNE D. - - - - Clerk, Business Office
KRENKEL, MARGARET A. - - - - Recorder, Registrar's Office
McCABE, RUTH - - - Secretary, Division of Special Services
McGRATH, GRACE E. - - - - Stenographer, Housing Office

* Part Time

MCKINNEY, NORA E.	- - - - -	Clerk, Dining Hall
MARX, EUGENE H.	- - - - -	Cashier, Business Office
MASON, JEAN	- - - - -	Credential Secretary, Registrar's Office
MAY, SIBYL S.	- - - - -	Purchasing Clerk, Business Office
MAYES, JOANNA	- - - - -	Assistant Recorder, Records Office
MENKE, MARGARET, B.M.E.	- - - - -	Assistant to Dean of College, Assistant to Director of Correspondence and Extension
MORRELL, GEORGE W., B.A.	- - - - -	Purchasing Agent, Business Office
MYERS, EDITH H., B.S.	- - - - -	Office Assistant, Registrar's Office
NERI, CHARLES A., B.S.	- - - - -	Manager, Bookstore
OAKLEY, RUTH	- - - - -	Secretary, Placement Bureau
OLSON, HARRIET HILL, B.A.	- - - - -	Secretary, Alumni Office
PAYNE, DOROTHY I., R.N., B.S.	- - - - -	Staff Nurse, Student Health Service
PEPPLE, JEANNE, B.S., B.Lit.	- - - - -	Secretary, Health Service
PERRINO, TERESA M.	- - - - -	Secretary, Men's Physical Education
PICERNO, THERESA E.	- - - - -	Switchboard Operator
PRATT, BRENDA H.	- - - - -	Head Resident, Alpha Hall
QUESADA, ALICE O.	- - - - -	Clerk, Business Office
RANDOLPH, ANN, B.S.	- - - - -	Assistant Dietitian, Dining Hall
RHOTON, DREW	- - - - -	Assistant Cashier, Business Office Board and Room Clerk, Business Office
ROBY, DORIS	- - - - -	Stenographer, Division of Student Affairs
RYAN, SHIRLEY	- - - - -	Office Assistant, Records Office
SHAVER, MARJORIE, B.A.	- - - - -	Director, Student Housing
SIMS, JOSEPH J.	- - - - -	Clerk, Business Office
SMITH, MARIAN H., A.B.	- - - - -	Secretary, Dean of Men
SOUTHERN, CLARENCE E., M.A.	- - - - -	Head Resident, Stadium Hall
SVARPA, GENEVIEVE E., B.S.	- - - - -	Director, Dining Hall
TIPTON, FRANCES BRAUNER	- - - - -	Head, Records Section
TRYON, ROBERT E., Ph.B.	- - - - -	Assistant, Division of Special Services
WALSII, MARGARET, B.A.	- - - - -	Head Resident, West Hall
WRIGHT, DORIS L.	- - - - -	Switchboard Operator
WRIGHT, J. ELINOR	- - - - -	Kitchen Supervisor, Dining Hall
YATES, GEORGE C., M.S.	- - - - -	Head Resident, Irish Hall
ZUROFF, BERTHA SPENIK	- - - - -	Payroll Clerk

Assistants in Maintenance Department

HARRIS, FENY
Superintendent.
Buildings and Grounds

HENRIE, WILLIAM
Supervisor of Janitors

MCGINNIS, CHARLES
Watchman

RANNOU, WILLIAM E.
Electrician

SVOB, ROBERT
Gardener

ROUSH, JOHANA
Matron, B. B. Moeur
Activity Building

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

"The board shall . . . establish curriculums and designate such courses at the several institutions as in its judgment will best serve the interests of the state, and award such degrees and diplomas upon the completion of such courses and curriculum requirements as it deems appropriate."

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 satisfaction 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 that shall be constructive in community, state, national and world relationships. (5) Moral and ethical standards leading to a higher culture. (6) 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. The new four-year degree program in Agriculture leads to the Bachelor of Science degree with major interest fields in Livestock and Crop Production.

(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, resident credit centers, 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 educational institutions under the control of one board called the Board of Regents of the University and State Colleges of Arizona. Each institution retains its identity. The Board of Regents has broad power. 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-nine fine buildings, and the original attendance of thirty-one has grown to a maximum of 4386 students for the first semester of 1949-1950.

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 Prehistoric Ruins, Pueblo Grande, Boyce Thompson Arboretum, Roosevelt and Coolidge dams, Canyon Lake, Hieroglyphic Canyon, and other places of historical and scenic interest. Papago Park, a national monument, lies just north of the city. A large natural amphitheater,

a chain of lakes, Hole-in-the-Rock, and the Elfin Hills make this 2000-acre park an ideal spot for hiking and picnicking.

The College Grounds

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

The thirty-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 north and east of the curve of highways 60, 70, 80, and 89. 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.

College 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.

Scottsdale Farm. This 80 acre farm is located three and one-half miles north of the College on the Scottsdale road. This farm serves as a laboratory for the new production courses in agriculture.

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.

English Building. This building, formerly known as *Old Science*, has been remodeled to house the English Department. In addition to class rooms and offices for English, speech and journalism, the offices of the student publications are located here.

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

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 is 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 building. The building is now being remodeled and extended to quadruple its present capacity. During the remodeling period, the Library will be housed in the new Maintenance Building located just north of the gymnasium.

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 attractive building contains an auditorium, a stage, a lovely reception room, a kitchen and a large basement room. Normally, it is used by students and faculty for social and educational functions. During the building program, it is being used as the Administration Building.

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 modern structure for women. The hall was named in honor of Dixie Dees 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 4 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.

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

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

New Women's Dormitory. A new women's dormitory to accommodate 108 women is under construction north of, and as an extension of, Gammage Hall.

New Men's Dormitory. A new men's dormitory to accommodate 146 men is under construction behind Irish Hall facing U. S. highways 60, 70, 80, and 89.

Administration and Classroom Building. This imposing building will be located on the southwest corner of College and Orange. It will house the administrative office and provide facilities for the Departments of Agriculture and Business Administration.

Goodwin Stadium. The Stadium was named after the late Garfield Goodwin, an early graduate of the Territorial Normal School, and a member of the Board of Education for many years. The west unit has a seating capacity of over 4,000. A new unit located on the east side of the field increases the total seating capacity to about 10,000.

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

North Campus Cottage. A brick home now serving as the home and office of the Dean of Men.

South Campus Cottage. A brick cottage now being used to house the Alumni Office and the Office of Special Services.

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.

R.O.T.C. Building. This temporary building located just north of the Moeur Building contains offices and classrooms for the Department of Military and Air Sciences.

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.

Student Office Building. This is a temporary building located just west of the Men's Gymnasium. It houses the student body offices and contains three classrooms used by the Department of Business Administration.

Maintenance Building. This new building located just north of the Men's Gymnasium is the center for the receiving, storage, and disbursement of all supplies and equipment. The switchboard and the mimeograph office are located here. Until the Library Building is completed, this building will serve as the Library.

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 previous college work done must be on file in the Office of the Registrar and Director of Admissions. Students should request the high school principal or college registrar to mail the transcript directly to the Registrar and Director of Admissions. Transcripts should be in the hands of the Registrar and Director of Admissions at least thirty days in advance of the registration date. Transcripts are not required at the time of admission of those taking work in the summer session, in extension, or by correspondence.

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

past four years must be furnished at the time of the health examination.

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

Aptitude Tests. 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 late afternoon, evening or Saturday classes only. These tests have nothing to do with a student's entrance. They are used for student guidance. They require 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 satisfactorily the regular aptitude tests. Provisional admission will be removed on the successful completion of the first thirty semester hours of college work.

Non-Graduates of High Schools

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

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

2. *Adult Civilians, and Veterans Over 18.* Civilians over 21 years of age, and veterans over 18 years of age who are not graduates of approved high schools may be admitted to undergraduate standing with conditions. These conditions may be removed during the second semester in college as follows: (a) Carry at least 15 semester hours during a regular semester with an index of 1.75 or better. (b) Pass with an acceptable score the G.E.D. Tests, High School Level. (c) 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, not graduates of approved high schools, whose records are not satisfactory may continue in college only if approved by the Admissions and Standards Committee. The Veterans' Education Adviser is located in the Office of the Registrar and Director of Admissions. He advises veterans under P. L. 346. A Veterans' Administration representative is located on the campus. He advises veterans under P. L. 16.

Special Information For Veterans

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

1. Veterans not previously in training under the G.I. Bill will obtain from the Veterans' Administration, Regional Office, Phoenix, Arizona, a Certificate of Eligibility and Entitlement to attend Arizona State College.
2. Veterans previously in training under the G.I. Bill will obtain from the Regional Office nearest the institution which he last attended a supplemental Certificate of Eligibility and Entitlement.
3. Veterans will deliver these certificates to the Veterans' 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 Office of the Registrar and Director of Admissions *not earlier* than one month after registration if they seek college credit for military science.

5. A veteran must report to the Office of the Registrar and Director of Admissions 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.

Registration

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

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

Classification of Students. Freshmen are those students 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. Freshmen and lower division transfer students attending Arizona State College for the first time

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

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

Course Restrictions. Freshmen may not register for courses numbered 200-299 without the recommendation of their advisor 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 obtain their registration materials beginning Monday morning. They will report for aptitude tests as scheduled on the registration week program. This will enable them to complete their aptitude and health examinations and complete registration before the end of registration week. Those failing to do so will be charged the late fees.

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

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

Auditors. Students regularly enrolled may register as auditors in one or more courses without credit with the approval of the Registrar and Director of Admissions and with the consent of the instructor involved. Courses audited count toward the student's load. Students once registered for credit are not permitted to change to "audit" after the date specified in the catalog for change of program.

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.

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

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

Letter grades of A, B, C, D and E will be used in grading the examination, and D shall be considered the lowest passing grade. The number of hours credit granted for the course shall be the number of hours specified in the current catalog.

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

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

Changes in Registration. Programs should be carefully planned under the guidance of the curriculum adviser so that changes in regis-

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

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 Office of the Registrar and Director of Admissions. (2) Secure the signatures of the Dean of Men (men students), Dean of Women (women students), Student Health Service (if withdrawing for health reasons), Women's Physical Education Department (women only), R.O.T.C. (if registered for R.O.T.C), Librarian, Business Office, Veterans' Accounts (Veterans only), Veterans' Educational Adviser (Veterans only), and return card to the Office of the Registrar and Director of Admissions.

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

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.

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

The Testing and Counseling Program. The testing and counseling program is under the direction of the Dean of the College. He has the assistance of the Deans of Men and Women and other particularly well qualified and interested faculty personnel. The head of the Psychology Department and his staff aid in the coordination of testing and counseling, and students trained in counseling methods furnish supplementary aid to all resident men and women.

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. These interviews are arranged only upon the specific request of the student to the Testing Center.

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 con-

ferences 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 chosen a curriculum, he will then be assigned a permanent curriculum adviser whose function is to assist the student in his selection of courses and to sign his registration cards. The student remains under the same adviser throughout his college career. Due to the crowded schedules of each adviser, students are urged to take the initiative in seeking counsel about the adequacy of their class program.

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.

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: East Hall, Stadium Hall, Green Gables, and Units A, B, and C of Irish Quadrangle.

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

Preferences of dormitories may be stated at the time of making reservation. Assignments to men's halls are made under supervision of the Dean of Men; assignments to women's halls are made under supervision of the Dean of Women.

Residence in halls, sorority or fraternity house is restricted to students registered for 12 or more units of regular work. Any exception must be approved by the Dean of Women or Dean of Men. The College reserves the right to change the residence of any student or to deny or cancel residence accommodations of any student in cases where such action is deemed desirable.

Occupancy. Housing accommodations are available for occupancy the Saturday preceding Freshman Week. 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. Women students may not sleep in study rooms 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, and washable laundry bag. All should be clearly marked with the name of the student. *The college provides and launders sheets, pillow slips, hand towels, and bath towels.*

Regulations Concerning Guests. Guests may be accommodated in residence halls when space is available on the following conditions:

(a) that the permission of the head resident has been secured; (b) that guests do not accept invitations from residents for the first four nights of the week or during examination time unless absolutely necessary; (c) that guests do not ask for accommodations for more than a three-day period. Visiting student groups may be accommodated when previous arrangements are made with the Dean of Men or the Dean of Women. A nominal rental fee is charged for these accommodations.

Care of Halls and Apartments. The College attempts to furnish comfortable and artistic living conditions for students. Students are expected to cooperate by keeping them so. Should any damage, beyond the usual wear, occur to the decorations and furniture of a room, the cost of redecoration or repair will be charged to the occupants of the room.

Off-Campus Housing. 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 excepting extension and correspondence students.	
Student Activity Fee.....	\$10.00
Excepting extension and correspondence students, this fee is paid by all who carry more than 5 semester hours. Only those students paying this fee receive activity tickets.	
College Series Fee.....	\$1.25
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
Excepting extension and correspondence students, this fee is paid by all who carry more than 5 semester hours.	
Library Fee	\$2.00
Paid by all excepting correspondence and extension students.	

Special Fees

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

Non-resident Tuition Fee (per semester).....	\$125.00
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A student to be considered a legal resident of Arizona for the purpose of registering at the Arizona State College at Tempe must present evidence as follows:

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

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

(2) If over 21 years of age—that legal residence in the state has been established for at least 1 year next preceding registration, and that he is eligible to become a registered voter. (Sec. 3 of Art. 7, Constitution of Arizona, provides, "For the purpose of voting, no person shall be deemed to have gained or lost a residence . . . while a student at any institution of learning . . .")

(3) If an alien who has taken out first naturalization papers—that residence has been maintained in the state for at least 1 year previous to registration.

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

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

Applied Vocational and Technical Fees (per month).....	\$36.00
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A fee of \$36.00 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
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A room will be reserved in one of the dormitories when the student makes a deposit of \$5.00 in the Business Office. On withdrawal from the College this deposit will be refunded less any damage done by the student to College property.

Apartment Reservation Deposit	\$10.00
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Transcript Fee

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

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

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.

Application for 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.

Science Breakage Deposits

In the following courses students are required to purchase a \$2.50 deposit card. When their breakage exceeds this amount, they will be required to purchase additional deposit cards.

Chem. 110, 111, 112, 114, 131, 141, 142, 150, 180, 211, 212, 215, 251, 252, 271g, 273g, 281g.

Women's Gymnasium Deposit (per semester).....\$5.00
This deposit will be refunded if the gymnasium suit, towels, leotard, and lock are returned in good condition.

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

General Expenses

Board and Room (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. The board and room rates do not include the Christmas vacation. If board and room is made available during these holidays, it is in addition to the regular board and room rates and is payable by the week for room rent and meals are on a la carte basis and are paid for at the dining hall at each meal. 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 and bath towels.

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)	413.00

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 recommend that a student be dropped from class whenever, in his opinion, the student's continuation in the course seems unprofitable to the student or detrimental to the class, and will send a memorandum to the Registrar and Director of Admissions who will initiate the "Authorization for Dropping Course" form. All *veteran students* are to be reported to the Office of the Registrar and Director of Admissions when absent for three or more consecutive class periods or when the instructor considers the total number of absences excessive, whether consecutive or not.

No excuses for absence from class are granted either by the administration or by instructors. 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 whatever 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 per semester 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. Alternate courses may not be substituted for required generalization courses under a particular curriculum nor may any such courses be waived without approval of the Admissions and Standards Committee. Alternative courses may not be substituted for required courses, in the major, minor or area of concentration under a particular curriculum, nor may any such courses be waived without the approval of the curriculum adviser in the department in which such major, minor or area of concentration is offered.

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 and Director of Admissions.

Application for Graduation and Teaching Certificates. Students who plan to complete requirements for graduation at the end of either summer term or the first semester should pay the Application for Graduation fee and file their application for graduation with the Registrar and Director of Admissions before registering for their final term or semester. Those planning to complete requirements for graduation in May should pay the Application for Graduation fee and file their applications for graduation with the Registrar and Director of Admissions before November 15. 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 Office of the Registrar and Director of Admissions. Candidates who fail to pay the Application for Graduation fee and file applications at the times specified are required to pay the late fee, and may be scheduled for graduation at a later date. Upon filing an application for graduation, a final check on graduation requirements is made by the Office of the Registrar and Director of Admissions. A check sheet showing the remaining requirements for graduation under the curriculum designated in the application is furnished the student as a guide to his final semester's registration.

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

Graduation Fees. The Application for Graduation fee is \$10.00 if paid on or before the dates specified in the preceding paragraph. After

that date the fee is \$15.00. Five dollars of this 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 the College. If the petition is granted, a fee of \$7.50 is charged for a degree taken in absentia.

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

Requirements for the Master's Degree

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

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.	

Incomplete. A mark of Inc. is given only when a course is unfinished because of illness or other conditions beyond the control of the student. An incomplete may not be given to any student who has taken the final examination for the particular course. Negligence or indifference are never accepted as reasons for giving an Inc. Incompletes must be removed in a manner prescribed by the instructor, not later than the middle of the following semester. If the Inc. is not removed, the instructor will report a mark of Wp. The Department Head will report the mark of Wp if the instructor in his department who reported the incomplete is no longer in the employ of the College. Incompletes received in summer session courses must be removed in a

manner prescribed by the instructor not later than December 31 next following.

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

Mark of Wp. The mark of Wp is given whenever a 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.

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

When a course is repeated, the original grade remains on the student's record and is included in his cumulative scholarship index. Semester hours of cred't are counted only once for the course but the honor points are included on the scholarship index both times the course is taken.

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

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

Disqualification. All students, who, at the close of any semester or term, fail to receive passing marks in fifty per cent of the semester hours for which they are officially registered or who fail to receive

a semester scholarship index of 1.00 are disqualified. Students disqualified at the close of the first semester are not eligible for the second semester. Students disqualified at the close of the second semester are not eligible to attend summer session or the first semester of the following college year.

Probation. Where circumstances are deemed sufficient, a student may be reinstated by a vote of the Admissions and Standards Committee. Any disqualified student has a right to be heard by this committee after making written application to the Registrar and Director of Admissions, who is chairman of the Admissions and Standards Committee. Any students who have been reinstated by the Admissions and Standards Committee are on probation for the semester following reinstatement.

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 Office of the Registrar and Director of Admissions is notified prior to final examination week.

Services to Students

Placement Bureau

The Placement Bureau is maintained to assist students in obtaining employment according to their training, ability and experience as well as to serve the various needs of the State. Although the Placement Bureau does not guarantee placement, every effort is made to aid students and those in the field who desire placement assistance. Students may enroll by filling out the appropriate blanks. Upon enrolling, students receive full information and instructions relative to securing employment. Complete records are kept on file in the office. Yearly renewal keeps credentials in active file.

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

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

All correspondence relative to placement should be addressed to Robert F. Menke, Director of Placement.

Student Employment

An effort will be made to place students in campus and off-campus jobs which tend to supplement their educational goals. Students may work from five to twenty hours per week according to the requirements of the job. Students working twenty hours per week will be asked to carry a reduced class schedule. All students are expected to maintain at least a 2.00 scholarship index.

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

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

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

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.

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.

Pre-Medical Award. This award of twenty dollars is given to a senior man who has taken the pre-medical course, who has a scholarship index of 3.00 or better, and who has been admitted to medical school.

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 dollar , 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.

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 who are in need of financial aid may make application to the Comptroller, Business Office, for available loan funds.

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 student 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.

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.

Dixie Dees Gammage Scholarship. Awarded annually by the State Press to a high school senior in Arizona for outstanding work in the field of journalism.

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.

Clark Smith Fellowships in Business Administration. Two fellowships of \$600.00 each, known as the Clark Smith Fellowships in Business Administration, are given annually by Clark Smith and Mrs. Fay Jackson Smith (an alumna of Arizona State College), Phoenix, to the two most outstanding senior men specializing in Business Administration at Arizona State College, Tempe. Applicants must be residents of Maricopa County. These fellowships are awarded on the basis of need, scholarship, leadership, character, and social intelligence.

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

Ascruted Student. Every student of the college is automatically a member of the Associated Student Body. The Board of Regents, the President, and the faculty challenge every student to accept his individual responsibility for stimulating and regulating student activities, and customs, and for promoting the intellectual, moral, and social welfare of all students in a truly democratic manner. These objectives are attained by encouraging all students to participate in the government of the College. A Council, 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 problem 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 woman registered in the College is a member of the Associated Women Students. The purpose of this organization is to bring about greater unity and mutual helpfulness among the women of the College. A governing body called the A.W.S. Council is composed of duly elected officers, the presidents of the women's dormitories, and the president of Off Campus Women. *Off Campus Women* is a part of A.W.S. and membership is open to all women not living in residence halls. This group offers an opportunity for these women to feel that they are a part of the College and to enjoy social life along with their studies.

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

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 association for women who have earned 1,000 points in varsity-dance and or sports activity. Associate membership open to those women who have earned 800 points.

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.

Kappa Kappa Psi. A national band fraternity whose purpose is to promote the best interests of college bandsmen.

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.

Marketing Club. Promotes the interests and welfare of students majoring in marketing management.

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.

Press Club. A club composed of journalism majors fosters the interests and welfare of students through journalistic activities.

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.

Tau Beta Sigma. A national band sorority interested in promoting the best interests of college bandswomen.

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

Women's Athletic Association. This organization is affiliated with the National Athletic Federation of College Women and provides opportunities for participation in a variety of sport and dance activities for all women students. Membership is open to any woman student who earns 100 points in physical education activities.

Women's Physical Education Club. A departmental organization promoting physical education objectives. Membership is open to all women majoring or minoring in Physical Education.

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:

<i>Beta Kappa</i> (local)	<i>Kappa Kappa Alpha</i> (local)
<i>Chi Sigma</i> (local)	<i>Phi Beta Epsilon</i> (local)
<i>Gamma Phi Beta</i> (national)	<i>Philomathian</i> (local)
<i>Gamma Theta</i> (local)	

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

<i>Delta Chi</i> (national)	<i>Phi Sigma Kappa</i> (national)
<i>Delta Sigma Phi</i> (national)	<i>Sigma Pi</i>
<i>Kappa Alpha Psi</i> (national)	(nucleus of national chapter)
<i>Lambda Chi Alpha</i>	<i>Tau Kappa Epsilon</i> (national)
(nucleus of national chapter)	
<i>Lambda Phi Sigma</i>	
(local, but now petitioning Alpha Tau Omega)	

Special Group Activities

Music Activities

Opportunities are offered through public recitals for the expression of musical talent by the students of voice, piano, brass and wood-wind instruments; the Choral Union; the Concert Choir; and the

band and orchestra. College credit is given for regular work in these courses.

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 there are well-planned intramural programs for both men and women. This program includes all of the major sports with several additions to the intercollegiate program, and in addition, sport and dance activities for women. The women participate in Sports days with other colleges and universities in such activities as: volleyball, hockey, softball, tennis, badminton, archery, dance, and golf.

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. The Women's Activity Building provides facilities for all women's indoor physical activities and is also the center for the social activities of the College.

Speech and Dramatics

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

Oratory. Campus orators are given opportunity to compete in a number of contests, local, state, and interstate. In the state contest three cash prizes aggregating \$100.00 are offered for the best original orations on international peace.

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

Sandal, the local dramatics club, or Alpha Psi Omega, national dramatic fraternity.

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 over 100 groups in their activities. A wide variety of activities is scheduled throughout the year. These include athletic events; social events including dances, dinners, banquets, teas; entertainment and lecture series; music and other cultural gatherings. 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, twice weekly throughout the college year, a seven-column, four 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 head of the journalism division serves as adviser. The editor, managing editors, and the business manager are nominated by the publications board and confirmed by the Student Council. Subscription to the publication is included in the activity fee.

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. Stormont, 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 7500 graduates including the class of 1949. 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 \$30,000.00, 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 6000.

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, 1949-50

Thomas B. Lillico, '35, President	Phoenix
Pat Downey, '38, First Vice-President.....	Phoenix
John F. Burke, '35, Second Vice-President	Tucson
Jack Daley, '31 & '35, Third Vice-President.....	Thatcher
Frances Williams DeWolf, '42, Secretary.....	Phoenix
George Morrell, '41, Treasurer.....	Tempe
Sidney B. Moeur, '14, Board of Directors.....	Phoenix
Charles A. Stauffer, '01, Board of Directors.....	Phoenix
Hascall Henshaw, '41, Board of Directors.....	Tempe
Lyle Trimble, '34, Board of Directors.....	Mesa
W. W. Caywood, '30, Board of Directors.....	Phoenix
Charles Stidham, '42, Board of Directors.....	Phoenix
James W. Creasman, '35, Executive Secretary.....	Arizona State College

Extension Division

Many people who desire to continue their studies while actively engaged in their business or professional activities find it impossible to attend the regular sessions of the College. In response to this demand, the Extension Division has been established and offers two special types of service: extension courses offered at residence centers and correspondence courses. By these two methods, the regular College courses are made available to these people at a moderate cost.

In addition, the College offers radio service, speaker and consultant service, bureau of audio-visual aids, school visitations, published bulletins, and other means of assistance.

Residence Center Courses

Residence centers will be organized where there is sufficient demand, when approved instructors are available, and when library or laboratory facilities are adequate to provide college-level instruction. A residence center must be approved by the Director of Extension. By taking advantage of courses thus offered, teachers and others are enabled to accumulate the credits needed for the completion of requirements for the degree. These courses carry from two or four hours of credit, and are identical in content with the courses offered on the campus. Work done in residence centers carries residence credit.

The fee for all extension courses is \$7.50 per semester hour, and is payable at the time of registration. For further information concerning residence center courses, write the Director of Extension.

Correspondence Courses

Through the use of the mails, the privileges of the college campus and 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 correspondence courses may be applied toward the bachelor's degree; however, not more than one-eighth of any curriculum leading to the degree shall be taken 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 by correspondence without obtaining the approval of the Admissions and Standards Committee. All inquiries concerning correspondence courses should be addressed to the Correspondence Division.

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 one hundred and fifty government and industrial films which may be used by any responsible organization.

The Summer Session

Two Terms. The summer session consists of a pre-session of one week, two terms of five weeks each and a post-session of three weeks. 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 Science Building is air-cooled by the latest refrigeration system. The Library, the English Building, and Old Main are air-cooled. Students can study in comfort and attend classes in comfort in all of the classrooms.

Forenoon Classes. Most classes meet in the forenoon, 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. The class periods are extended to sixty minutes which permits students to earn six semester hours for each term, or twelve semester hours for the ten week session. No student will be permitted to register for more than six semester hours per term. Full residence credit is given. In three ten week 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.

Fees and Expenses. The tuition fee is \$31.50 per term, both for residents and non residents of Arizona. Textbooks and supplies may be purchased at the college book store on the campus. Board and room for the summer are furnished on campus at the prevailing rates.

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 college library will be housed temporarily in the new Maintenance Building on the East Campus during the year 1950 while the \$525,000 construction program to enlarge and remodel the present library building is in process. The Library's administra-

tion, operation and services will continue to aid and assist the academic and instructional needs as usual. It is anticipated that the new library will be available for occupancy in September 1950.

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 the new Maintenance 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 graduate 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 primary, elementary, or secondary teaching, administration and supervision of elementary or secondary schools, and special educational services such as audio visual education, school library service, and counseling and guidance work. High scholarship and professional competency are required in at least one of these fields.

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 the Graduate Division at Arizona State College at Tempe upon filing with the Director of Graduate Study an Application for Admission. Admission to the Graduate Division permits the student to register in any course, graduate or undergraduate, for which he has sufficient background and which meets his needs and interests. *Admission to the Graduate Division does not commit the student to a program of studies leading to the degree of Master of Arts in Education, nor does admission to the Graduate Division imply enrollment in the Master's Degree Program or admission to candidacy for the master's degree.*

Students who declare their intention of entering upon a program of graduate work to meet the requirements for the master's degree must file transcripts of all college work done elsewhere. These transcripts should be sent to the Office of the Director of Graduate Study.

Transcripts filed with the Director of Graduate Study become the property of the College and may not be released.

Graduate students who desire to earn credit which will meet State certification requirements should have transcripts of all undergraduate and graduate work earned in institutions other than the Arizona State College at Tempe sent to the Director of Certification, Office of the State Superintendent of Public Instruction, Arizona State Capitol Building, Phoenix, Arizona.

Enrollment in the Master's Degree Program

Students who wish to earn the master's degree must enroll in the Master's Degree Program as early as possible in the period of their residence so that they will not chance losing credits that might otherwise apply toward the requirements for the degree. Ordinarily, no more than twelve semester hours of graduate credit earned before enrollment in the Master's Degree Program may be applied toward the requirements for the degree.

Students may enroll in the Master's Degree Program at any time after being admitted to the Graduate Division by filing an Application for Enrollment in the Master's Degree Program. Applications and transcripts will be evaluated and the student will be enrolled when evidence of the following are found:

- a. The student has earned a bachelor's degree in an approved institution and has a satisfactory undergraduate scholarship average.
- b. The student's scholarship in any graduate work done elsewhere has been satisfactory.
- c. The student has earned the prerequisite undergraduate credits in Education and Psychology courses.
- d. The student has selected a field of graduate specialization for which he has the prerequisite undergraduate credits.
- e. The student has been assigned a graduate adviser.
- f. The student has planned a tentative graduate program of studies which has been approved by his graduate adviser.

In cases in which questions arise with respect to the student's qualifications for master's degree work, the student may be required to take a battery of qualifying tests.

Graduate Bulletin

In the Graduate Bulletin will be found a detailed description of the Graduate Program at Arizona State College at Tempe. For a listing of the requirements for the degree of Master of Arts in Educa-

tion and other regulations governing graduate work, the student should refer to this Bulletin. Copies of the Graduate Bulletin and Applications for Admission to the Graduate Division may be obtained in 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) Professional and Pre 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.

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. This graduate program, if properly arranged, leads 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, and Physical and Health Education, (7) Vocational in Home Economics. Students already working on special certificates in Commerce, 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 the Director of Teacher Training.

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. (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, Tempe Elementary School, The Rural School, Phoenix Grade Schools, Phoenix Union High Schools, Mesa High School. Students are assigned to schools other than those listed above only on special request.

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

Each student teacher is under direct guidance of a 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
	18		18

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. 103 U. S. History _____	3	Hist. 102 Western Civilization or Hist. 104 U. S. History _____	3
Mus. 125 Music Fundamentals for Kdgn.-Elem. Teachers _____	2	Mus. 126 Music Fundamentals for Kdgn.-Elem. 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 or A. S. 103 Basic Air Science _____	1.5
M. S. 103 Basic Military Science or A. S. 103 Basic Air Science _____	1.5	Electives _____	5 or 6.5
Electives _____	2 or 3.5		16
	16		16

JUNIOR YEAR

*Ed. 205 Construction Activities _____	4	*Sci. 231 Science for Elem. School _____	3
*Ed. 212 Play Education _____	3	P. E. 242 Health Education _____	3
Mus. 227 Music in the K. P. Grades _____	2	*Ed. 202 Language Arts _____	3
*Ed. 201 Language Arts _____	3	*Ed. 209 K-P Curric. & Tchg. Problems _____	3
Electives _____	4	Electives _____	4
	16		16

SENIOR YEAR

*Ed. 260 Directed Teaching _____	10	*Ed. 211 History of Education or *Ed. 250 Philosophy of Education _____	3
*Psych. 260 Ed. Measurements _____	3	*P. S. 206 Constitutional Government _____	3
Electives _____	2	*Ed. 233 Visual Aids Education _____	2
	15	Electives _____	8
	15		16

*May be taken either semester.

Recommended courses for electives: Art 117; H. Ec. 101, 102, 103, 209; Math. 205; Mus. 130; Speech 230.

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

Students not able to play the piano accompaniment sufficient to meet the needs of young children may take Mus. 121, 122, 123, and 124 to help meet the requirements. Those who play the piano may

meet the requirement by demonstrating their ability. Students interested in young children but not in certification may elect any of the kindergarten-primary 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
		18			18.0

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 or			M. S. 104 Basic Military Science or		
A. S. 103 Basic Air Science	1.5		A. S. 104 Basic Air Science	1.5	
Electives	4	or 5.5	Electives	4	or 5.5
		18			18

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	
		18	Electives	5	
					18

SENIOR YEAR

*Ed. 260 Directed Teaching	10		*P. S. 200 Constitutional Government	3	
*Ed. 230 Elementary Curriculum	3		*Ed. 211 History of Education or		
*Art 210 Public School Art	2		*Ed. 250 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
		<u>16</u>			<u>16</u>

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. 103 U. S. History.....	3		Hist. 102 Western Civilization or 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 or A. S. 103 Basic Air Science.....	1.5		M. S. 104 Basic Military Science or A. S. 104 Basic Air Science.....	1.5	
Major, minor or electives.....	7	or 8.5	Major, minor or electives.....	7	or 8.5
		<u>16</u>			<u>16</u>

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	
		<u>16</u>			<u>16</u>

SENIOR YEAR

*Ed. 211 History of Education or *Ed. 250 Philosophy of Education.....	3		*P. S. 200 Constitutional Government.....	3	
*Ed. 260 Directed Teaching.....	6		P. E. 242 Health Education.....	3	
Major, minor or electives.....	7		Major, minor or electives.....	9	
		<u>15</u>			<u>15</u>

GRADUATE YEAR

Ed. 300 Educ. Research and Scientific Method.....	2		Thesis or Practicum.....	4	
Electives (See Graduate Bulletin).....	13		Electives (See Graduate Bulletin).....	11	
		<u>15</u>			<u>15</u>

* May be taken either semester.

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.

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)

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. 10 Hygiene (2)
P. E. Activity (2)
Military Science and or Air Science (6)

Humanities (8)

Art 100 Introduction to Art (2)
Eng 171 Introduction to Lit. (3)
Eng. 252 Semantics (2)
Mus 130 Introduction to Music (2)
Phil. 200 Introduction to Philos. (3)
Art 211, or Art 212 may be substituted for Art 100 by Juniors or seniors only.
Eng 111, 121, 153, 221 or 222 may be substituted 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 (12)

Group 1 Biological Sciences
G.S. 110, 4 Zool 111, (4); Bot. 110, (4)
Group 2 Physical Sciences
G.S. 110, (4); Phys 110 (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.)

For the B.S. Degree (40)

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

P. E. 100 Hygiene (2)
P. E. Activity (2)
Military Science and/or Air Science (6)

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)

Concentration Requirements

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

B. An area of concentration shall consist of at least 36 semester hours of credit in related courses, in addition to the required generalization courses. When a course listed under the generalization requirements falls within a student's area of concentration, he may,

upon approval of his adviser, substitute another course within the same subject-field.

C. The 36 or more semester hours of course work in the area of concentration shall consist of: (1) From 15 to 24 semester hours in a single department or departmental subdivision as described in the catalog. (2) At least 15 of the 36 semester hours from upper division courses. (3) A required sequence or pattern of related courses. (4) A pattern of related optional courses, designed to meet individual needs, to be selected under the guidance of an adviser from a list of recommended courses.

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

FOR THE B. A. DEGREE		FOR THE B. S. DEGREE	
<i>Department</i>	<i>Concentration 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.

Professional and Preprofessional 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.

Agriculture Production and Management Curriculum

The following four-year curriculum in Agriculture Production and Management is designed to meet the needs of those students who wish to prepare for the business of farming or ranching as resource owners or managers. Specialization in production agriculture is offered in the major fields of livestock and crop production. Students who wish to prepare for various phases of business directly related to agriculture will find this curriculum adapted to their needs. This four-year curriculum leads to the degree of Bachelor of Science. (See section under Department of Agriculture for a more complete description and statement of requirements of this curriculum.)

Students whose interests are in the fields of production agriculture who cannot plan to complete a four year curriculum may, upon consulting with the curriculum advisers in agriculture, arrange terminal programs of one, two, or three years, adapted to their particular interests and needs.

FIRST YEAR

First Semester		Hours	Second Semester		Hours
Eng. 101 First Year English	3		Eng. 102 First Year English	3	
*Psych. 100 Elementary Psychology	3		*Soc. 120 Sociology	3	
*G.S. 110 Intro. to Biological Sciences	4		*G.S. 100 Intro. to Physical Sciences	4	
Ag. 145 Livestock Production and Management	3		Ag. 147 Crop Production and Management	3	
Ag. 161 Agricultural Mechanics	2		Ag. 162 Agricultural Mechanics	2	
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	
		17.0			17.0

SECOND YEAR

†Math. 105 Basic Mathematics	3		Hist. 102 Survey of Western Civilization or		
Hist. 101 Survey of Western Civilization or			Hist. 104 U.S. Since the Civil War	3	
Hist. 103 U.S. Through the Civil War	3		Ag. 143 Farm and Ranch Management	3	
Ag. 141 Principles of Farm and Ranch Organization	3		Ag. 149 Agricultural Marketing and Merchandising	3	
Ag. 144 Agricultural Economics	3		Ag. 167 Agricultural Engineering	3	
Elective or Major Field of Interest	3		Elective or Major Field of Interest	3	
P.E. Activity (Men)	0.5		P.E. Activity (Men)	0.5	
M.S. 103 Basic Military Science or			M.S. 104 Basic Military Science or		
A. S. 103 Basic Air Science	1.5		A. S. 104 Basic Air Science	1.5	
		17.0			17.0

THIRD YEAR

Eng. 171 Introduction to Literature	3		Ag. 242 Farm Business Protection	3	
Ag. 209 Conservation of Agricultural Resources	3		Ag. 246 Land Utilization	2	
Ag. 244 Agricultural Finance	3		Ag. 248 Management of Supplies and Equipment	2	
Electives and Major Field of Interest	6		Electives and Major Field of Interest	8	
		15			15

FOURTH YEAR

Ag. 252 Public Relations	3		Ag. 250 Farm Labor Management	3	
Ag. 256 Homestead Management	2		Electives and Major Field of Interest	11	
Electives and Major Field of Interest	9				
		14			14

* May be taken either semester.

†Math. 105 or 107 may be substituted.

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. 111 General Zoology	4		Zool. 112 General Zoology or		
Chem. 110 or 111 General Chemistry	4		Bot. 110 General Botany	4	
Ag. 101 Crop Production	2		Chem. 114 General Chemistry	4	
Ag. 107 Animal Husbandry	2		Ag. 102 Forage Crops or Elective	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	0 or 1.5		Electives	1.5 or 3	
		17			17.5

SECOND YEAR

Bot. 171 Plant Anatomy.....	4	Bot. 172 Plant Physiology.....	4
Bact. 110 General Bacteriology.....	4	Chem. 180 El. Organic Chemistry.....	4
*Bus. Ad. 130 Introduction to Econ.....	3	P. E. Activity (men), (women).....	0.5
Phys. 111 General Physics.....	4	M. S. 104 Basic Military Science or	
P. E. Activity (men), (women).....	0.5	A. S. 104 Basic Air Science.....	1.5
M. S. 103 Basic Military Science or		Electives chosen from Ag. 114, 116,	
A. S. 103 Basic Air Science.....	1.5	125, 126, 143 and Phys. 112.....	7.5
Electives.....	0 or 1.5		18
	17		

* May be taken either semester.

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.....	3	*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. 101 Basic P. E. (women).....	0.5		17.5
	16.5		

SECOND YEAR

Chem. 211 General Organic Chemistry or		Chem. 213 General Organic Chemistry or	
Chem. 141 Quantitative Analysis.....	4	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
Eng. 171 Introduction to Literature.....	3	*Bus. Ad. 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		16.5

* May be taken either semester.

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	*Speech 110 Elements of Speech.....	2
I. A. 113 Engineering Drawing.....	3	Chem. 112 General Chemistry.....	5
Math. 119 Algebra & Trigonometry.....	4	Math. 120 Analytic Geometry.....	4
I. A. 109 Calculations.....	3	I. A. 124 Descriptive Geometry.....	3
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
	19		19

SECOND YEAR

(Civil Engineering Option)

I. A. 145 Surveying.....	3	I. A. 280 Advanced Surveying.....	3
Math. 122 Differential Calculus.....	4	Phys. 122 Engineering Physics.....	5
Phys. 121 Engineering Physics.....	5	Math. 123 Integral Calculus.....	4
I. A. 134 Materials of Construction.....	2	*Bus. Ad. 130 Introd. to Economics or	
P. E. Activity (men).....	0.5	I. A. 224 Estimating & Contracting.....	3
M. S. 103 Basic Military Science or		P. E. Activity (women).....	0.5
A. S. 103 Basic Air Science.....	1.5	M. S. 104 Basic Military Science or	
		A. S. 104 Basic Air Science.....	1.5
	<hr/>		<hr/>
	18		17

(Chemical Engineering Option)

I. A. 155 Mechanisms.....	3	Chem. 142 Quantitative Analysis.....	4
Chem. 141 Quantitative Analysis.....	4	Math. 123 Integral Calculus.....	4
Math. 122 Differential Calculus.....	4	Phys. 122 Engineering Physics.....	5
Phys. 121 Engineering Physics.....	5	*Bus. Ad. 130 Introd. to Economics.....	3
P. E. Activity.....	0.5	P. E. Activity.....	0.5
M.S. 103 Basic Military Science or		M. S. 104 Basic Military Science or	
A. S. 103 Basic Air Science.....	1.5	A. S. 104 Basic Air Science.....	1.5
	<hr/>		<hr/>
	18		18

(Electrical and Mechanical Engineering Option)

I.A. 145 Surveying.....	3	P.S. 101 Introd. to Political Science or	
Math. 122 Differential Calculus.....	4	I. A. 209 Surveying.....	3
Phys. 121 Engineering Physics.....	5	Math. 123 Integral Calculus.....	4
I.A. 155 Mechanisms.....	3	Phys. 122 Engineering Physics.....	5
P.E. Activity.....	0.5	*Bus. Ad. 130 Introd. to Economics or	
M.S. 103 Basic Military Science or		I. A. 224 Estimating & Contracting.....	3
A.S. 103 Basic Air Science.....	1.5	P. E. Activity.....	0.5
	<hr/>	M.S. 104 Basic Military Science or	
		A.S. 104 Basic Air Science.....	1.5
	<hr/>		<hr/>
	17		17

* May be taken either semester.

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. 100 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 or A. S. 101 Basic Air Science	1.5		M. S. 102 Basic Military Science	1.5	
Elective	2 or 3.5		Elective	2 or 3.5	
		17			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	

* May be taken either semester.

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, 12 months, is given at St. Joseph's and Good Samaritan Hospitals, 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, \$50.00, for the senior year at hospital plus regular college registration fees. The third year of work under this curriculum must be taken in residence at this college, unless arrangements have been approved in advance by the Admissions and Standards Committee.

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 16			17

SECOND YEAR

Chem. 141 Quantitative Analysis	4		Chem. 142 Quantitative Analysis	4	
*Bus. Ad. 130 Introd. to Economics	3		Soc. Studies elective	3	
Zool. 163 Comparative Anatomy	4		Chem. 180 Elem. Organic Chem.	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
Bact. 110 General Bacteriology _____	4	Chem. 280 Biochemistry or	
Zool. 171 Human Anatomy _____	3	restricted science elective _____	4
Elective _____	4	Zool. 172 Human Physiology _____	3
		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

* May be taken either semester.

Pre-Medical and Pre-Dental

The minimum requirement for admission to accredited medical and dental schools is a four-year high school education and two, three, and in many 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 student.

At the present time many more students qualify for entrance into dental and medical schools than can be admitted. It is advised that those who plan medical or dental careers, select their electives so that they may concentrate either in biological science, chemistry, or medical technology, and qualify in one of these fields in case they are unable to enter medical or dental training. The adviser should be consulted in this matter.

Upon the successful completion of the following four-year curriculum, the student will be granted the Bachelor of Science degree.

FIRST YEAR

First Semester	Hours	Second Semester	Hours
Eng. 101 First Year English _____	3	Eng. 102 First Year English _____	3
Zool. 110 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 or 19

SECOND YEAR

French or German _____	4	French or German _____	4
Chem. 141 Quant. Analysis _____	4	Bact. 110 Introd. to Bacteriology _____	4
Botany _____	4	*Soc. 120 Sociology _____	3
*Psych. 100 Elementary Psych. _____	3	P.E. Activity (men) (women) _____	0.5
P. E. Activity (men) (women) _____	0.5	M.S. 104 Basic Military Science or	
M.S. 103 Basic Military Science or		A.S. 104 Basic Air Science _____	1.5
A. S. 103 Basic Air Science _____	1.5	Electives _____	4
	15.5 or 17		15.5 or 17

THIRD YEAR

Chem. 211 General Organic Chem. 4	Chem. 212 Gen. Organic Chem. 4
Phys. 111 General Physics 4	Phys. 112 Gen. Physics 4
Zool. 163 Comparative Anatomy 4	Zool. 254 Embryology 4
Social Studies 3	Social Studies 3
Humanities elective 2	Humanities elective 2
17	17

FOURTH YEAR

Chem. 280g Biochemistry 4	Zool. 232 Parasitology 4
French, German, or elective 4	French, German, or elective 4
Biol. 204 Genetics 3	Electives 8
Humanities 3	
Electives 3	
17	18

* May be taken either semester.

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	
15.5		16.5	

TWO YEAR PRE-NURSING CURRICULUM

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

FIRST YEAR

First Semester	Hours	Second Semester	Hours
Eng. 101 First Year English 3		Eng. 102 First Year English 3	
*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	
15.5		17.5	

SECOND YEAR

*Eng. 171 Introduction to Literature 3	*Speech 110 Elements of Speech 2
Zool. 171 Human Anatomy 3	Zool. 172 Human Physiology 3
Social Science elective 3	Social Science elective 3
H. Ec. 105 Applied Food Principles 3	Electives 7
Bact. 110 General Bacteriology 4	Physical Education activity (women) 0.5
Physical Education activity (women) 0.5	
16.5	15.5

* May be taken either semester.

DEGREE CURRICULUM FOR NURSING

A degree curriculum for nurses is offered which combines a general college program and a basic clinical course in nursing. This curriculum is designed to meet the needs of two groups of students: (1) those who wish to pursue a program of training to be taken jointly at the College and at the Good Samaritan Hospital, Phoenix, leading to the Certificate of Registered Nurse in Arizona and to the Bachelor of Science degree, and (2) those who hold the Certificate of Registered Nurse in Arizona and who wish to complete, in addition, a program of college work that will lead to the Bachelor of Science degree.

I. FIVE YEAR PROGRAM FOR NURSING

Students without nursing training will meet the regular college admission requirements and will take the general college courses 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 the nursing program, students must take the courses that are outlined in the second year of the curriculum given below.

As a prerequisite for graduation, the student must pass the Arizona State Board examinations in nursing. Upon passing the State Board Examination, the student must file with the Registrar and Director of Admissions, a statement from the Secretary of the State Board that the student has been granted registration and holds a currently valid license to practice nursing in Arizona. Upon satisfactory completion of the requirements of a registered nurse in Arizona, and those of the college for this curriculum, the student is eligible for graduation with the Bachelor of Science degree.

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

FIRST YEAR

(At Arizona State College at Tempe or other accredited college)

First Semester		Hours	Second Semester		Hours
Eng. 101 First Year English	3		Eng. 102 First Year English	3	
*Speech 110 Elements of Speech	2		*Eng. 171 Introd. to Literature	3	
Math. 105 Basic Mathematics	3		*G.S. 110 Introd. to Biological Sciences	4	
*G. S. 109 Introd. to Phys. Science	4		P. E. 102 Basic P. E. (women)	0.5	
P. E. 101 Basic P. E. (women)	0.5		Humanities Elective	2	
Social Studies Elective	3		Social Studies Elective	3	
		15.5			15.5

* May be taken either semester.

SECOND YEAR

(At Good Samaritan Hospital School of Nursing. Courses given by Arizona State College as part of clinical training.)

Chemistry for Nurses	3	Microbiology	3
Psychology	2	Sociology	2
Human Anatomy & Physiology	3	Human Anatomy & Physiology	3

THIRD YEAR

Good Samaritan Hospital School of Nursing

FOURTH YEAR

Good Samaritan Hospital School of Nursing

FIFTH YEAR

(At Arizona State College at Tempe)

Biol. 204 Genetics & Eugenics.....	3	Chem. 180 Elem. Organic Chemistry....	4
Soc. 212 Introd. to Social Work.....	3	Soc. 220 Modern Social Problems.....	3
Psych. 208 Mental Hygiene & Abnormal Psychology	3	Psych. 234 Child Psychology.....	3
Psych. 225 Social Psychology.....	3	Restricted electives	7
Restricted electives	5		
	17		17

II. DEGREE PROGRAM FOR REGISTERED NURSES

Graduates of accredited three-year schools for nurses will, in addition to meeting the regular admission requirements, file with the Registrar and Director of Admissions, well in advance of registration, official transcripts of all work done in high school, college, and nursing schools together with a statement from the Secretary of the State Board that the student has been granted registration and holds a currently valid license to practice nursing in Arizona. Upon acceptance of those credentials, advanced standing credit, not to exceed 46 hours, will be allowed for work completed in an approved school of nursing.

To meet the requirements for the Bachelor of Science degree, students admitted to this curriculum will complete the course requirements in the first and fifth years of the Five Year Program for Nursing, except P.E. 101 and 102. The restricted electives are to be selected 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	
Math. 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. 163 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 or	
M. S. 103 Basic Military Science or		A. S. 104 Basic Air Science	1.5
A. S. 103 Basic Air Science	1.5	Elective	3
	<u>18</u>		<u>17</u>

* May be taken either semester.

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), ALLEN, BARRETT, CRUMBAKER,
FULLER, PARKER, RASMUSSEN, RIGGINS, THOMAS

Purposes. The Agriculture Department offers courses to meet the needs of the following students: (1) Those who are interested primarily in the production and management phases of agriculture and who wish to obtain a degree of Bachelor of Science with a major interest field in Crop or Livestock Production. (2) Those preparing for some phase of agriculture as a career and who wish to obtain the degree of Bachelor of Science with an area of concentration in either Agronomy or Animal Husbandry. (3) Those desiring to attend Arizona State College at Tempe one or more years and then transfer elsewhere to obtain a degree in the technical and scientific phases of agriculture. (4) Those who desire to do their pre forestry or pre veterinary training at Arizona State College at Tempe. (5) Those not planning to graduate but desiring to take one or more years of college training for agriculture pursuits. (6) Those who wish to take certain electives in the agriculture field while pursuing another curriculum at the college.

Agriculture Production and Management Curriculum

This four year curriculum in Agriculture Production and Management is designed to (1) provide training essential to the careers of successful and satisfying interested farmer citizens; (2) provide training for the land resource owner as a managing agriculturalist of productive enterprises, utilizing our natural resources; and (3) provide training for competency in specialized agricultural production basic to the industry of agriculture. This curriculum offers training for those students who are planning to enter the business of farming or ranching as owners or managers of productive agricultural enterprises. Students who plan to enter any of the various phases of Livestock Production, Crop Production, or any of the various phases of business directly connected with production agriculture, will find this curriculum adapted to their needs. This four year curriculum leads to the degree of Bachelor of Science.

Under this curriculum, the student is given ample opportunity for specialization in either of two major interest fields—Livestock Production or Crop Production. Thirty semester hours of course

work are required in one of these major interest fields of production agriculture. The courses in these special interest fields are selected by the student, under the guidance of his adviser, to meet individual needs for particular farming or ranching interests in agricultural production enterprises.

To successfully enter upon a career as an agricultural producer, the student must recognize the need for essential basic agricultural training. He must also recognize the need for devoting as much of his time as possible to the essential task of acquiring the facilities for his chosen productive agricultural enterprises in order that he may be enabled to get firm possession of the necessary capital and property to successfully carry on a career as a producer.

In order to provide for this essential equity-building program, the students who enter this curriculum will be required to engage in a productive work experience and equity-building program under the guidance and direction of his curriculum adviser. Facilities and arrangements for this will be provided by the college under the direction of the agricultural faculty. In addition to the regular staff members of the department, many leaders in the various agricultural production and allied industrial fields will be used as resource persons to present special lectures and to assist with field trips. No student will be permitted to remain in this degree curriculum who cannot meet this requirement satisfactorily.

Admission to sophomore standing in this curriculum will be restricted to approved students who are actually living on farms or ranches and have the facilities for conducting one or more agricultural enterprises on a bona fide commercial basis, or who are in a position to acquire firm possession of agricultural production resources, at home, on farms of others, or farms or land under the jurisdiction of the College for this purpose.

Students must agree to accept the required minimum hours of employment in residence on approved agricultural enterprises and subject themselves to the required management and work supervision necessary to successful progress in any equity-building program of approved scope. This work experience and equity-building program will be carried on throughout the year under the direction of the agriculture faculty.

The supervised work program will not carry college credit as it is presumed the student will accept gains toward farm ownership as ample reward for time spent in this part of the degree requirement. Satisfactory performance in the student's work experience

program will be required before clearance for graduation can be given.

See page 80 under Professional and Preprofessional Curriculums for the four-year course outline of this curriculum.

Arts And Sciences Curriculums

The degree. The completion of a four year curriculum, including the generalization requirements listed on pages 78 and 79 of the 1950 51 catalogue and an area of concentration in agronomy or animal husbandry 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 agronomy or animal husbandry must complete 40 semester hours of work outlined on pages 78 and 79 in the catalogue, and in addition the requirements of one of the areas of concentration as outlined below.

Areas of Concentration

Prerequisite Courses. The following courses must be taken as prerequisite by all students taking an area of concentration in agronomy or animal husbandry: Math. 105 Basic Mathematics, 3 Sem. Hrs., or Math. 106 Intermediate Algebra, 3 Sem. Hrs., or Math. 107 College Algebra, 3 Sem. Hrs.; Physics 110 Introduction to Physics 4 Sem. Hrs., or Physics 111 and 112 General Physics, 8 Sem. Hrs.; Bot. 110 General Botany, 4 Sem. Hrs., or Zool. 111 General Zoology, 4 Sem. Hrs.; Biol. 204 Genetics & Eugenics, 3 Sem. Hrs.; Chem. 110 Introductory Chemistry, 4 Sem. Hrs., and Chem. 180 Elementary Organic Chemistry, 4 Sem. Hrs. Credit earned in these courses may be applied in meeting the generalization requirement of 12 semester hours in science and mathematics.

Required Courses. Twelve semester hours are required in the following courses for either an area of concentration in agronomy or in animal husbandry: Ag. 101, 103, 105, 121, 152, 161.

Agronomy. To meet the requirements for an area of concentration in agronomy, the minimum of 24 semester hours must be selected from the following courses: Ag. 107, 144, 149, 202, 204, 206, 208, 210, 212, 216, 218, 219, 222, 223, 287, 289; Bact. 110; Bot. 160, 230.

Animal Husbandry. To complete the requirements of an area of concentration in animal husbandry, a minimum of 24 semester hours

must be selected from the following courses: 122, 125, 127, 144, 149, 210, 222, 223, 224, 225, 226, 228, 230, 232, 234, 235, 236, 238, 239.

Description of Courses

Agronomy or Crop Production

Ag. 101 *Crop Production*. The principles of field crop production. Special emphasis on cultural practices in Arizona. Prerequisite for all succeeding agronomy courses. Fee, \$1.00. One lecture and 3 hours laboratory. Credit, 2 hours.

103 *Forage Crops*. The principal forage crops of the United States with particular reference to the Southwest. Prerequisite: Ag. 101. Fee, \$1.00. Two lectures and 3 hours laboratory. Credit, 3 hours.

105 *Soils*. The formation, classification, and properties of soils; the relation to crop production; soil conservation. Prerequisite: one course in college chemistry. Fee, \$1.00. Two lectures and 3 hours laboratory. Credit, 3 hours.

107 *Irrigation Principles and Practices*. History of irrigation, extent and importance, water measurements, application and conservation of irrigation water. Prerequisite: Ag. 105. Fee, \$1.00. Three lectures or equivalent in field work. Credit, 3 hours.

200 *Conservation of Agricultural Resources*. Basic course devoted to developing an understanding of the relationships of agricultural resources to society and the necessity for maximum production from the agricultural resources of land, water, timber, and minerals. Fee, \$2.00. Three lectures or equivalent in field work. Credit, 3 hours.

202 *Weeds and Weed Control*. Identification of weed seeds and plants. The weed problem in agriculture and methods of control. Prerequisite: Bot. 110. Fee, \$1.00. Two lectures and 3 hours laboratory. Credit, 3 hours.

204 *Cereal Crops*. Classification, history, distribution, and cultural methods involved in the production of cereal crops. Fee, \$1.00. Two lectures and 3 hours laboratory. Credit, 3 hours.

206 *Crop Judging and Commercial Grading*. Seed, sheaf, and hay judging of cereals, legumes, grass, and other crops, and the application of the Federal Standard in the grading of field crops. Prerequisite: Bot. 110. Fee, \$2.00. Two lectures and 3 hours laboratory. Credit, 3 hours.

208 *Soil Fertility*. Problems involved in the use of fertilizers, crop rotations, and irrigation water in the management of soils. Pre-

requisite: Ag. 105. Fee, \$2.00. Two lectures and 3 hours laboratory. Credit, 3 hours.

210 *Alfalfa Production*. Cultural methods concerned with the production and improvement of alfalfa. Fee, \$1.00. One lecture and 3 hours laboratory. Credit, 2 hours.

212 *Cotton Production*. Study of the cultural methods and the problems involved in the production and improvement of cotton. Fee, \$1.00. One lecture and 3 hours laboratory. Credit, 2 hours.

214 *Agricultural Seminar*. Current policies concerning agriculture will be considered. Credit, 2 hours.

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

218 *Soil Conservation*. The study of soil management as a conservation agency. Prerequisite: Ag. 105. Fee, \$2.00. Credit, 3 hours.

219 *Agricultural Entomology*. Insect pests of major economic importance in agriculture in Arizona and the West, including their recognition, type of damage, distribution, life history and methods of control. Consideration of insecticides will be included. Fee, \$1.00. Two lectures and 3 hours laboratory. Credit, 3 hours.

Animal Husbandry or Livestock Production

121 *Principles of Animal Husbandry*. Principles of livestock management and production. Score card and judging practices. Prerequisite to other animal husbandry courses. Fee, \$1.00. Two lectures and 3 hours laboratory. Credit, 3 hours.

122 *Breeds of Livestock*. Characteristics of breeds of farm animals; origin, history, and development; pedigree studies. Fee, \$1.00. One lecture and 3 hours laboratory. Credit, 2 hours.

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

127 *Poultry Husbandry*. Poultry management, and application to local and regional conditions. Fee, \$1.00. Three lectures or equivalent in field work. Credit, 3 hours.

222 *Animal Feeding*. Study of the different feeds and feeding methods, physiology of nutrition, and balancing rations. Prerequisites: Ag. 121 and one course in college chemistry. Fee, \$2.00. Three lectures or equivalent in field work. Credit, 3 hours.

- 223 *Animal Nutrition*. Fundamental principles of animal nutrition, in regard to the metabolism of proteins, carbohydrates, fats, minerals, and vitamins. Deficiency symptoms shown in the animal. Prerequisites: Ag. 121, 2nd; Chem. 110, 180. Fee, \$1.00. Three lectures or equivalent in field work. Credit, 3 hours.
- 224 *Market Milk*. The classes of market milk, sanitation, milk inspection, and scoring of dairies. Prerequisite: Bot. 220. Fee, \$1.00. Three lectures or equivalent in field work. Credit, 3 hours.
- 225 *Livestock Judging*. A study of various breeds of livestock. Trips to stock farms, ranches, and livestock fairs. Prerequisites: Ag. 121, 122. Fee, \$2.00. One lecture and 6 hours laboratory or equivalent in field work. Credit, 3 hours.
- 226 *Swine Production*. Production, breeding, feeding, and management of swine. Prerequisites: Ag. 121, 122, 222. Fee, \$1.00. Two lectures or equivalent in field work. Credit, 2 hours.
- 228 *Beef Production*. Production, breeding, feeding, and management of beef cattle. Prerequisites: Ag. 121, 122, 222. Fee, \$1.00. Two lectures or equivalent in field work. Credit, 2 hours.
- 230 *Sheep Production*. Production, breeding, feeding, and management of sheep. Prerequisites: Ag. 121, 122, 222. Fee, \$1.00. Two lectures or equivalent in field work. Credit, 2 hours.
- 232 *Herd Book Study*. Study and application of animal pedigrees. Prerequisites: Ag. 121, 122. Fee, \$1.00. Three lectures or equivalent in field work. Credit, 3 hours.
- 234 *Dairy Management Practices*. Approved methods of feeding and management of the dairy herd; emphasis on the economical production of milk and other subjects relating to dairy farming. Prerequisites: Ag. 125, 222. Fee, \$2.00. Three lectures or equivalent in field work. Credit, 3 hours.
- 235 *Range Management*. Grazing regions, range forage, range improvement, range plants. Prerequisites: Ag. 121, Bot. 110. Fee, \$5.00. Three lectures or equivalent in field work. Credit, 3 hours.
- 236 *General Veterinary Science*. Study of the anatomy and physiological functions of domestic animal. Special attention given to the digestive and reproductive systems. Prerequisites: Ag. 121, Zool. 111. Fee, \$1.00. Credit, 3 hours.
- 238 *Livestock Hygiene and Sanitation*. Study of animal health problems as encountered on the farm and ranch. The importance of sanitation and management in disease control and animal health.

Prerequisites: Ag. 121, Zool. 111. Fee, \$2.00. Three lectures or equivalent in field work. Credit, 3 hours.

239 *Animal Breeding*. The principles of genetics applied to animal breeding. Prerequisites: Biol. 204, Zool. 111. Fee, \$1.00. Three lectures or equivalent in field work. Credit, 3 hours.

Management and Economics

141 *Principles of Farm and Ranch Organization*. The principles, concepts, and procedures of farm and ranch organization as applied in the business of farming and ranching. Fee, \$1.00. Three lectures or equivalent in field work. Credit, 3 hours.

143 *Farm and Ranch Management*. Designed primarily to teach underlying business principles of farm and ranch management as they affect the overall administration of agricultural production-business enterprises; and to develop business judgment in the actual, practical business of operating and managing farms, ranches, and business enterprises closely connected with agricultural production. Fee, \$1.00. Three lectures or equivalent in field work. Credit, 3 hours.

144 *Agricultural Economics*. Deals with the principles of economics as they apply to agricultural problems. The economic factors governing crop production and its distribution will be given major consideration. Credit, 3 hours.

145 *Livestock Production and Management*. Such problems as methods of production, livestock enterprises, economics budgeting, finance, loss prevention, and marketing are considered in relation to livestock production and management. Fee, \$1.00. Three lectures or equivalent in field work. Credit, 3 hours.

147 *Crop Production and Management*. Types of crop farms, cropping systems, finance, harvesting, and pest control as applied to crop production are considered. Fee, \$1.00. Two lectures and 3 hours laboratory. Credit, 3 hours.

149 *Agricultural Marketing and Merchandising*. Underlying principles, concepts, and factors that control the efficient marketing and merchandising of agricultural products. Credit, 3 hours.

152 *Farm Organization and Management*. Selection of the farm, management, crop selection, diversification, capital utilization, cost accounting, etc. Fee, \$1.00. Three lectures or equivalent in field work. Credit, 3 hours.

242 *Farm Business Protection*. Various factors responsible for farm business losses such as: legal causes, natural cause, business mistakes, and poor judgment are studied with a view to preventing loss and

protecting investments. Three lectures or equivalent in field work. Credit, 3 hours.

244 *Agricultural Finance*. Acquisition of capital, use of credit, legal aspects of finance and financial management of working capital. Three lectures or equivalent in field work. Credit, 3 hours.

246 *Land Utilization*. Land management including soils, subjugation of land, fertility maintenance, homestead arrangement and vertical farming facilities. Credit, 2 hours.

248 *Management of Supplies and Equipment*. Selection, purchasing, economics of servicing and financing of equipment and supplies. Fee, \$1.00. Two lectures or equivalent in field work. Credit, 2 hours.

250 *Farm Labor Management*. General principles and economics of farm labor requirements related to farm management costs and income. Fee, \$1.00. Three lectures or equivalent in field work. Credit, 3 hours.

252 *Public Relations*. Public relations techniques, government's interest in agriculture, agricultural programs such as production control, subsidies, supports and the interrelated economic problems of agriculture. Three lectures or equivalent in field work. Credit, 3 hours.

254 *Cooperative Marketing*. Principles of cooperation, methods of organization, operation and management of cooperative sales, purchasing and service associations. Fee, \$1.00. Credit, 3 hours.

256 *Homestead Management*. The farm homestead and its relation to the farm business. Fee, \$1.00. Two lectures or equivalent in field work. Credit, 2 hours.

Horticulture

181 *Vegetable Crops*. Areas of production and cultural practices. Emphasis on the vegetable garden. Fee, \$1.00. Three lectures or equivalent in field work. Credit, 3 hours.

183 *Principles of Horticulture*. Plant propagation. Nursery practices. Orchards and home grounds. Fee, \$1.00. One lecture and 3 hours laboratory. Credit, 2 hours.

184 *Practical Horticulture*. Ornamental trees and shrubs, flowering plants, and landscaping. Fee, \$1.00. One lecture and 3 hours laboratory. Credit, 2 hours.

287 *Citriculture*. Study of orchard operation skills to acquaint student with methods of operating commercial orchards, with emphasis on origin and distribution of citrus, varieties, economic importance, pest

control, and orchard tillage. Prerequisite: Ag. 183. Fee, \$1.00. Three lectures or equivalent in field work. Credit, 3 hours .

289 *Landscaping and Floriculture*. Fundamental principles and practices in landscaping and the culture of annual and perennial flowers, bulbs, houseplants, shade trees, shrubs, lawn grasses and greenhouse plants. Prerequisite: Ag. 184. Fee, \$1.00. Three lectures or equivalent in field work. Credit, 3 hours.

292 *Commercial Vegetable Crops*. Soil practices, cultural methods, harvesting and marketing of leading truck crops. Three lectures or equivalent in field work. Credit, 3 hours.

Agricultural Mechanics

161 *Agricultural Mechanics*. Study and application of various mechanical skills important to agriculture. Prerequisite to all other courses in agriculture mechanics. Fee, \$4.00. One lecture and 3 hours laboratory. Credit, 2 hours.

162 *Agricultural Mechanics*. Design, construction and repairing of farm equipment. Fundamentals of welding and cutting will be taught. Fee, \$4.00. One lecture and 3 hours laboratory. Credit, 2 hours.

164 *Farm Structures and Equipment*. Functional requirements of farm buildings, use of building materials, farm carpentry and constructional methods. Fee, \$4.00. One lecture and 3 hours laboratory. Credit, 2 hours.

167 *Agricultural Engineering*. Irrigation and land management. Problems concerned with preparation of land for irrigation, conveyance of irrigation water, irrigation structures, efficiency of water, water measurement, and drainage are considered. Fee, \$2.00. Three lectures or equivalent in field work. Credit, 3 hours.

260 *Farm Tractors*. Operation, servicing, and repairing of gasoline-powered tractors. Fee, \$4.00. One lecture and 3 hours laboratory. Credit, 2 hours.

262 *Farm Tractors*. Operation, servicing, and repairing of diesel-powered tractors. Fee, \$4.00. One lecture and 3 hours laboratory. Credit, 2 hours.

264 *Farm Machinery and Power*. Care, repair, adjustment, and field operation of tillage and cultivating implements, planters, and fertilizing machines. Fee, \$4.00. One lecture and 3 hours laboratory. Credit, 2 hours.

266 *Farm Machinery and Power*. Care, repair, adjustment and field operation of harvesting machinery, feed grinders, silage cutters, and

other miscellaneous farm machines. Fee, \$4.00. One lecture and 3 hours laboratory. Credit, 2 hours.

268 *Farm Refrigeration*. Study of various refrigeration equipment, its care, repair, adjustment, and actual operation. Fee, \$4.00. One lecture and 3 hours laboratory. Credit, 2 hours.

Department of Art

KLOSTER (Head of the Department), BERGAMO, HARTER, MALMS,
MORRIS, SANS CRAINTE, SANDERSON

The Department of Art offers courses to meet the needs of students in: (1) teacher training, (2) an area of concentration in art in the Arts and Sciences Curriculums, (3) basic and 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, Ed. 228a, 211, 212. Ed. 228a 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; Ed. 228a, 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 78 and 79 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, 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.

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*. Exploration and experimentation with materials such as wood, wire, metal, and plastics. Organization of form in design. Problems in construction. Fee, \$1.50. First year, first semester, 4 hours a week. Credit, 2 hours.

106 *Basic Design*. Problems in two-dimensional design. A study of colors and color harmony. Prerequisite: Art 105. Fee, \$1.00. Four hours a week. First year, second semester. Credit, 2 hours.

117 *Allied Crafts*. A studio course dealing with modern design in materials such as leather, metal, textiles, plastics, plaster, and wood. Processes of block printing, stenciling, weaving, and bookbinding explored. Prerequisite: Art 105 or 106. Fee, \$10.00. Leather, metal, plastics, textile paint furnished. Six hours a week. Second year, each semester. Credit, 3 hours.

121 *Lettering*. Construction, spacing, and arrangement of Roman and Gothic letters. Analysis of Italic, script, and miscellaneous letter forms. Fee, 50c. Four hours a week. First year, each semester. 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 illus-

trators. Prerequisites for Art majors: Art 103, 105. Fee, \$2.00. Six hours a week. Credit, 3 hours.

135 *Fashion Illustration*. Introduction to fashion illustration. Emphasis upon sketching and rendering. Prerequisites: Art 103, 106. Six hours a week. Credit, 3 hours.

141 *Interior Design*. Problems in interior design, renderings of floor plans, elevations and interior sketches. Prerequisites: Art 101, 106. Fee, \$2.00. 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. Prerequisite: Art 141. Fee, \$2.00. Second semester, 6 hours a week. Credit, 3 hours.

151 *Ceramics*. A laboratory course in practical production methods, and an introduction to the nature of clay and glazes. Prerequisites: Art 105, 106. Fee, \$3.00. Four hours a week. Second year. Credit, 2 hours.

152 *Ceramics*. Continuation of 151. Glaze decorative treatments. Introduction to classroom management. Prerequisite: Art 151. Fee, \$5.00. Four hours a week. Second and third year. Credit, 2 hours.

161 *Water Color*. Painting in gouache and transparent water color. Emphasis on techniques, composition and color. Prerequisite for art majors: Art 101, 106. 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, 105. 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. Prerequisite: Art 171. Second semester, 4 hours a week. Fee, \$4.00. Credit, 2 hours.

191 *Oil Painting*. Emphasis upon composition, color, and technical mastery of the oil medium. Prerequisites for art majors: Art 101, 106. Fee, \$1.00. Six hours a week. Each semester. Credit, 3 hours.

Art 201g *Advanced Drawing*. Emphasis on drawing techniques and composition. Prerequisite: Art 101. Four laboratory hours a week. Credit, 2 hours.

203 *Advanced Life Drawing*. Emphasizes form and anatomical structure of figure and head. Various mediums and techniques. Prerequisite: Art 103. Fee, \$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.

205g *Space Design*. Creative design with emphasis on volume and space relationships. Construction in a variety of materials. Continuing use of hand tools and machine tools. Prerequisite: Art 105. Fee, \$5.00. Six laboratory hours a week. Credit, 3 hours.

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.

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. 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 in Italy and Northern Europe. Fee, \$1.00. Three hours a week. Second semester. Credit, 3 hours.

213g *Contemporary Art*. A survey of philosophy and trends in twentieth-century art. Prerequisite for art majors: Art 211. Fee, \$1.00. Two hours a week. Second semester. Credit, 2 hours.

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

218g *Advanced Crafts*. Students specialize in a particular craft medium or technique. Prerequisite: Art 217. Fee, \$3.00. 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 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. Prerequisite: Art 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. Prerequisite: Art 231. Fee, \$2.00. Six hours a week. Credit, 3 hours.

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

241 *Advanced Interior Design.* Emphasis on fabrics, materials, wood and floor coverings used in modern interiors. Prerequisite: Art 141. Fee, \$2.00. Six hours a week. Credit, 3 hours.

251 *Advanced Ceramics.* Students specialize in ceramic techniques, glaze preparation, formula interpretation, stacking and firing kiln. Prerequisite: Art 152. Fee, \$7.00. Six hours a week. Third year. Credit, 3 hours.

252g *Advanced Ceramics.* Mastery of studio techniques of ceramic production and glazing. Prerequisite: Art 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, 6 hours a week. Credit, 3 hours.

271 *Advanced Sculpture.* Experimenting with various materials and working from model. Prerequisite: Art 172. Fee, \$5.00. First semester, 4 hours a week. Credit, 2 hours.

280g *Graphic Arts Processes.* Introduction to printing processes in wood cut, etching, and lithography. Emphasis on black and white composition as well as technical processes will be stressed. Prerequisites: Art 101, 103, 106. Six laboratory hours a week. Fee, \$3.00. Credit, 3 hours.

291 *Advanced Oil Painting.* Advanced problems in oil painting. Prerequisite: Art 191. Six hours a week. Each semester. Credit, 3 hours.

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

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

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

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.

315 *Painting Mediums and Techniques*. A laboratory course dealing with materials of painting. Preparation of grounds, compounding of egg tempera, casein, oil and synthetic resin mediums will precede actual painting problems in these techniques. Four laboratory hours a week. Credit, 2 hours.

316 *Mural Painting*. Study of the aesthetic and social values in mural painting. Actual experience with the true fresco method on large wall surfaces. Experiences with casein and other media as used by mural painters today. Mural painting in relation to school and community projects. Fee, \$5.00. Eight laboratory hours. Credit, 4 hours.

395 *Figure Painting*. Painting from model in various media. Prerequisites: Art 295, 296g. Fee, \$4.00. Three and one-half laboratory hours a week.

Department of Business Administration

HILKERT (Head of the Department), BRATCHER, BURTON, KELSO,
KOHLEER, LORENS, MARK, MCKINNON, MOUNT, NESS, 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.

Arts and Sciences Curriculums

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 78 and 79 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. Students selecting Accounting as an area of concentration will complete one of the following fields of emphasis.

(1) *Emphasis on Managerial Accounting.* This program is designed for those students who wish to prepare themselves to use accounting as an effective tool in the management of their own business or that of their employer. The subject matter and instruction are both carefully planned to give the student a thorough training in managerial accounting. The following 26 hours are required: Bus. Ad. 103, 201, 202, 207, 208, 209, 210, 215, 266; and 12 hours are to be selected from the following optional courses: Bus. Ad. 133, 211, 212, 213, 217, 219, 220, 221, 222, 226, 257, 268, 278, 262; Speech 110, 127, 220; Hist. 109; P.S. 101 and Math. 106.

(2) *Emphasis on Public Accounting.* The subject matter and instruction are designed to prepare outstanding accounting students for the certified public accountants' examination given by the American Institute of Accountants in May and November of each year. The courses outlined are also chosen to provide a broad academic training which is believed essential to the needs of the public accounting profession. The following 39 hours are required: Bus. Ad. 201, 202, 203, 204, 207, 208, 209, 210, 211, 212, 213, 230, 231; and 12 hours are to be selected from the following: Bus. Ad. 220, 221, 222, 223, 266; Math. 106 and/or Math. 107, 257, 278. The student will be guided in his choice of elective courses from the following: Bus. Ad. 133, 219, 226, 258, 262, 268, 289, 291, 292, 293, 298, 299; Eng. 128; Speech 110, 220; Hist. 109; P.S. 101, and other history and political science courses.

Economics and Management. Students selecting Economics and Management as an area of concentration will complete one of the following fields of emphasis.

(1) *Emphasis on Economics:* The following 24 semester hours are required: Bus. Ad. 133, 134, 217, 219, 226, 257, 259, 289; and 12 hours are to be selected from the following: Bus. Ad. 220, 258, 262, 263, 266, 267, 268; Geog. 101; Geol. 215; Hist. 109; P.S. 203, 204; Soc. 225.

(2) *Emphasis on Finance:* The following 24 semester hours are required: Bus. Ad. 133, 134, 215, 217, 220, 226, 257, 266; and 12 hours are to be selected from the following: Bus. Ad. 174, 201, 202, 219, 221, 240, 258, 259, 277, 289; Geog. 101; Hist. 109.

(3) *Emphasis on Insurance:* The following 24 semester hours are required: Bus. Ad. 171, 217, 220, 221, 222, 223, 240, 244, 245, 266; and 12 hours are to be selected from the following: Bus. Ad. 133, 134, 175, 201, 202, 210, 212, 215, 219, 226, 257, 258, 259, 265, 280, 289.

(4) Emphasis on Personnel: The following 23 semester hours are required: Bus. Ad. 134, 215, 219, 221, 265, 266; Psych. 214, 240; and 13 hours are to be selected from the following: Bus. Ad. 103, 175, 201, 202, 217, 222, 257, 262, 277, 278; Psych. 220, 225; P.S. 203.

Marketing and Advertising. Students selecting Marketing and Advertising as an area of concentration will complete one of the following fields of emphasis.

(1) Emphasis on Advertising. The following 25 semester hours are required: Art 123; Bus. Ad. 171, 174, 175, 277, 283, 286, 287, 288; and 11 hours are to be selected from the following: Art 121, 135, 223; Bus. Ad. 280, 281, 294; Eng. 128; Journ. 130, 140; Speech 170, 238; Psych. 214, 225.

(2) Emphasis on Marketing Management. The following 24 semester hours are required: Bus. Ad. 174, 175, 277, 279, 281, 283, 286, 293, 294; and 12 hours are to be selected from the following: Bus. Ad. 133, 201, 202, 217, 221, 226, 256, 278, 289; Geog. 101; Psych. 214.

(3) Emphasis on Retailing. The following 25 semester hours are required: Bus. Ad. 171, 174, 175, 277, 278, 279, 283, 288; H.Ec. 219; and 11 hours are to be selected from the following: Art. 131, 135, 231; Bus. Ad. 201, 202, 217, 221, 265, 287, 293; H.Ec. 215.

(4) Emphasis on Selling. The following 25 semester hours are required: Bus. Ad. 171, 174, 175, 277, 279, 280, 281, 283; Speech 220; Psych. 214; and 11 hours are to be selected from the following: Bus. Ad. 221, 222, 270, 287, 288, 293, 294; Psych. 225, 240; Speech 121, 122.

Secretarial Science. Students must complete the following 24 semester hours of required courses: Bus. Ad. 103, 120, 121, 215, 235, 236, 238, 241, 242, 243g; and 12 hours to be selected from the following options: 171, 201, 202, 217, 221, 262, 277; H. Ec. 202; Eng. 128; Speech 220.

Teacher-Education Curriculums

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, 232, 235, 236, 241; Ed. 228b.

Minor Teaching Field in Business Education. The minor teaching field consists of the following 16 semester hours: Bus. Ad. 101, 102, 120, 141, 235.

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. See 230g for continuation. Prerequisite: Bus. Ad. 202. Credit, 3 hours.

208g *Cost Accounting*. Cost find systems, process costs, standard costs, estimate costs, cost accounting procedure. See 231g for continuation. 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. Prerequisite: Bus. Ad. 201. First semester. Credit, 3 hours.

211g *Income Tax Federal and State*. Partnerships, corporations and fiduciaries, income taxes, reorganizations, holding companies, estate and gift taxes. Tax refunds, tax procedures, 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. Prerequisites: Math. 106; Bus. Ad. 212. Credit, 2 hours.

230g *Auditing Theory and Practice*. Continuation of course 207; emphasis will be placed on practical application of theoretical principles. Prerequisite: Bus. Ad. 207. Credit, 3 hours.

231g *Advanced Cost Accounting*. A further study of job order cost accounting with a major portion of the time being devoted to process, estimated, and standard costs, with some attention being given to distribution costs. Prerequisite: Bus. Ad. 208. Two lectures and one laboratory. Credit, 3 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. Ed. only. 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, monop-

istic 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. 130 or 132. Second semester. Credit, 3 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*. Functions of money, monetary systems, credit functions, banking practices and policies. Prerequisite: Bus. Ad. 133 or 134. 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. 130 or 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.

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*. Historical, statistical and analytical study of business cycle theory. Comparison of theories of leading economists. Methods of control of cyclical fluctuations. Prerequisite: Bus. Ad. 134. Credit, 3 hours.

240 *Real Estate Practice*. A study of real estate practices, appraisals, financing, and other pertinent subject matter. Prerequisites: Bus. Ad. 101, 102, 131, and 132. Credit, 3 hours.

257 *Public Finance*. Principles and practices of taxation, public expenditures, credit, budgetary policy. Prerequisite: Bus. Ad. 134. 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. 130 or 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 doctrines. Ancient and medieval writings, mercantilists, classical and neo-classical foundations. Prerequisite: Bus. Ad. 133. First semester. Credit, 3 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. 133, 134. First semester. Credit, 3 hours.

289 *International Trade and Finance*. Principles and practices of international trade and finance; national income and balance of payments; government controls; commercial and monetary policies; investment; international organizations. Prerequisite: Bus. Ad. 134 or 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.

Insurance

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*. A thorough study of life insurance principles. Prerequisite: Bus. Ad. 221. Credit, 2 hours.

223 *Life Insurance*. A continuation of the study of life insurance principles. Prerequisite: Bus. Ad. 222. Credit, 2 hours.

244 *Fire Insurance*. A complete and thorough study of all fire contracts and related contracts, together with an examination of current practices. Prerequisite: Bus. Ad. 221. Credit, 2 hours.

245 *Marine and Casualty Insurance*. A complete and thorough study of Marine and Casualty contracts and underwriting practices. Prerequisite: Bus. Ad. 221. Credit, 2 hours.

246 *Fire and Liability Insurance, C.P.C.U.* A study of insurance principles and practices as required by The American Institute for Property and Liability Underwriters for employed men in the field. Credit, 4 hours.

247 *Fire and Liability Insurance, C.P.C.U.* A study of rate making, rating bureaus, claims, claims service, and related topics. Credit, 4 hours.

248 *Fire and Liability Insurance, C.P.C.U.* A study of economics, government, social legislation and English as required by The American Institute for Property and Liability Underwriters for employed men in the field. Credit, 4 hours.

249 *Fire and Liability Insurance, C.P.C.U.* A study of general commercial law, insurance law, accounting, personal finance, business organization and agency management as required by The American Institute for Property and Liability Underwriters for employed men in the field. Credit, 4 hours.

273 *Life Insurance, C.L.U.* A study of life insurance principles as required by The American College of Life Underwriters for employed life insurance salesmen. Credit, 4 hours.

274 *Life Insurance, C.L.U.* A study of economics, sociology, and political science as required by The American College of Life Underwriters for employed life insurance salesmen. Credit, 4 hours.

275 *Life Insurance, C.L.U.* A study of corporation finance, banking, and investments as required by The American College of Life Underwriters for employed life insurance salesmen. Credit, 4 hours.

276 *Life Insurance, C.L.U.* A study of law, trusts, and taxes as required by The American College of Life Underwriters for employed life insurance salesmen. Credit, 4 hours.

Marketing and Advertising

Bus. Ad. 171 *Introduction to Selling.* 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, sales 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 results, etc. Prerequisites: Bus. Ad. 174, 224. Credit, 3 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.

288 *Newspaper Advertising*. A study of the special techniques and problems encountered in the use of newspapers as advertising media, together with practice in the preparation of advertising material. Prerequisite: Bus. Ad. 175. Two lectures and 2 laboratory hours. 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 and Transcription.* 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 *Transcription.* Integration of skills acquired in shorthand, typewriting, and related secretarial courses developed to a level of job proficiency. Prerequisite: Bus. Ad. 235. Fee, \$1.00. 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. Prerequisite: 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.

301 *Improving Instruction in Typewriting.* An intensive consideration of principles and modern methods in teaching typewriting and of office practices as they relate to typewriting. Registration subject to approval of instructor. Credit, 2 hours.

302 *Improving Instruction in Shorthand and Secretarial Procedure.* Various methods of presenting Gregg and Thomas shorthand with consideration given to the importance of secretarial procedure. Prerequisite: Bus. Ad. 236 or equivalent. Registration subject to approval of instructor. Credit, 2 hours.

303 *Improving Instruction in Bookkeeping and Accounting.* The latest methods of teaching bookkeeping and accounting and recent surveys in the field of education and business practice. Registration subject to approval of instructor. Credit, 2 hours.

304 *Teaching Basic Business Education.* A study of the place of basic business education and the content of such a program in the public schools. Registration subject to approval of instructor. Credit, 2 hours.

310 *Seminar in Business Education.* Problems in organization, administration, and instruction in the field of business education. Registration subject to approval of instructor. Credit, 1 to 3 hours.

Department of Education and Sociology

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

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 72-78.

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 every year 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 con-

cerning 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 pages 75-77, 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.

Elementary and Secondary Certificates. Students registered under the Elementary Curriculum may qualify for the pre-secondary certificate in addition to the elementary certificate by taking Ed. 215, Secondary School; Ed. 228, Methods of Teaching in the Secondary School; five hours of directed teaching in grades seven to twelve; a major of not less than twenty-four semester hours and a minor of not less than fifteen semester hours in fields or subjects usually taught in high schools; and not less than six semester hours of graduate work acceptable toward an advanced degree at an accredited institution.

Students registered under the Secondary Curriculum may qualify for the elementary certificate by meeting the minimum requirements as set forth by the State Department of Public Instruction, that is, Ed. 230, Elementary Curriculum, and five additional 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. However, it is strongly recommended that Ed. 201 and Ed. 202, Language Arts, be taken before directed teaching.

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 78-79 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 Course. The following 30 semester hours are required: Hist. 103, 104, 105, 106; Psych. 225; Soc. 205, 212, 215; P.S. 102, 203.

Optional Courses. Twenty semester hours to be selected from the following: Span. 8 hours; Hist. 109, 110, 204; Psych. 140, 214, 234; Bus. Ad. 110, 131, 132, 219; P. S. 101, 103, 200; Zool. 111, 171; Geog. 100; Biol. 204; Phil. 200; Eng. 171; Soc. 125, 203, 204, 220, 225.

Description of Courses in Education

Ed. 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. 205 and Ed. 212. 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 Practices in the Kindergarten Primary School.* Practices, materials, and policies with emphasis on curriculum trends, methods of instruction, pupil teacher and teacher parent relationships. Prerequisite: Ed. 209 or the equivalent. 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. Prerequisite: At least two courses in kindergarten primary education. 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. Emphasis on special interests of class members. 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.

228a *Methods of Teaching 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. Prerequisite: Ed. 215. Two hours a week. Credit, 2 hours.

228b *Methods of Teaching Business Education in the Secondary School.* A general survey of high school business education. Methods and materials used in the teaching of business subjects in public schools. Prerequisites: Bus. Ad. 120, Ed. 215. Credit, 3 hours.

228e *Methods of Teaching English in the Secondary School.* Those specializing in English should substitute for Ed. 228. Preparation of units in high school literature and composition, methods of teaching, laboratory in composition clinic. Prerequisites: Eng. 152, Ed. 215. Second semester. Credit, 3 hours.

228f *Methods of Teaching Spanish in the Secondary School.* For seniors specializing in Spanish and for teachers of Spanish. Methods of presenting the subject matter in more attractive and practical ways. Prerequisites: Span. 204, Ed. 215. Credit, 2 hours.

228h *Methods of Teaching Home Economics in the Secondary School.* Philosophy, content, and methods of teaching Home Economics in the secondary school. Prerequisite for those under the Secondary Curriculum: Ed. 215. Fee, \$1.00. Second semester. Credit, 3 hours.

228i *Methods of Teaching Industrial Arts in the Secondary School.* For students preparing to teach Industrial Arts. Making lesson plans, organization and presentation of materials to students; methods of instruction; types of community problems. Prerequisite: I.A. 122; Ed. 215. Fee, \$3.00. Credit, 3 hours.

228m *Methods of Teaching 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.

228mu *Methods of Teaching Music in the Secondary School.* Problems, materials, and teaching methods. Relationship of music department to the whole school program. Prerequisites: Mus. 235; Ed. 215. Third year, second semester. Credit, 3 hours.

228p *Methods of Teaching Health and Physical Education in the Secondary School.* A methods course required of men and women pursuing the Secondary Curriculum, with a major teaching field in physical education. Prerequisite: Ed. 215. Open to seniors. Credit, 3 hours.

228sc *Methods of Teaching Science in the Secondary School.* Principles and methods of teaching general science, biology, chemistry and physics. Prerequisite: Ed. 215. Credit, 3 hours.

228ss *Methods of Teaching Social Studies in the Secondary School.* Methods of teaching history, civics, and other social sciences. Given when demand is sufficient. Prerequisite: Ed. 215. Second semester. Credit, 2 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, 3 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. Open to seniors and graduate students. Others wishing to enroll in the course must secure permission from the instructor.

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 *Educational Research and Scientific Method.* Acquaints the student with the essential steps in scientific method and with the techniques and skills used in educational research. Required of all candidates for the master's degree. Credit, 2 hours.

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. Fee, \$1.50. 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 patterns, 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.

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.

360 *Guidance Laboratory*. This course is intended to provide, for a limited number of graduate students following the sequence in Guidance and others qualified to profit from it, supervised practice in carrying on guidance and counseling activities. Credit, 4 hours.

392 *Practicum in Kindergarten-Primary and Elementary Education*. Required of graduate students who pursue Kindergarten-Primary Education or Elementary Education as the field of specialization in the Master's Degree Program and who do not write a master's thesis.

Not open for credit to students who register for Thesis. Prerequisites: Enrollment in the Master's Degree Program and fifteen hours of graduate credit including Ed. 300. Credit, 4 hours.

393 *Practicum in Audio-Visual Education.* Required of graduate students who pursue Audio-Visual Education as the field of specialization in the Master's Degree Program and who do not write a master's thesis. Not open for credit to students who register for Thesis. Prerequisites: Enrollment in the Master's Degree Program and fifteen hours of graduate credit including Ed. 300. Credit, 4 hours.

394 *Practicum in Counseling and Guidance.* Required of graduate students who pursue Counseling and Guidance as the field of specialization in the Master's Degree Program and who do not write a master's thesis. Not open for credit to students who register for Thesis. Prerequisites: Enrollment in the Master's Degree Program and fifteen hours of graduate credit including Ed. 300. Credit, 4 hours.

395 *Practicum in School Library Services.* Required of graduate students who pursue School Library Services as the field of specialization in the Master's Degree Program and who do not write a master's thesis. Not open for credit to students who register for Thesis. Prerequisites: Enrollment in the Master's Degree Program and fifteen hours of graduate credit including Ed. 300. Credit, 4 hours.

396 *Practicum in Administration and Supervision.* Required of graduate students who pursue Administration and Supervision of Elementary or Secondary Schools as the field of specialization in the Master's Degree Program and who do not write a master's thesis. Not open for credit to students who register for Thesis. Prerequisites: Enrollment in the Master's Degree Program and fifteen hours of graduate credit including Ed. 300. Credit, 4 hours.

397 *Practicum in Secondary Education.* Required of graduate students who pursue any one of the Secondary Education fields of specialization in the Master's Degree Program and who do not write a master's thesis. Not open for credit to students who register for Thesis. Prerequisites: Enrollment in the Master's Degree Program and fifteen hours of graduate credit including Ed. 300. Credit, 4 hours.

399 *Thesis.* For students who write a master's thesis. Not open to students who receive credit in a practicum. Prerequisite: Enrollment in the Master's Degree Program. No scheduled class meetings. Open for credit for period of two years from time of registration. Credit, 4 hours.

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 phase of culture, and the principles of anthropology. Credit, 3 hours.

203 *Marriage and the Family*. The family is interpreted as a basic social institution. The development of the family from an economic unit to a companionship is related to cultural factors. Emphasis is placed upon socialization of the individual and his adjustment to the social order as major functions of the family. Prerequisite: Soc. 120. Credit, 3 hours.

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

208 *Archaeological Field Methods*. The excavation of archaeological sites and the recording and interpretation of data. Includes field experience in this locality. Fee, \$3.00. Two lectures and 3 laboratory hours. 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 coordinated 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

L. MYERS (Head of Department), BURKE, BYERS, CONLIN, DAVIES,
H. FIELDING, J. GIRDLER, L. GIRDLER, HOPKINS, MCSLOY,
MORRIS, J. MYERS, PILCHER, PLUMMER, PORTNOFF, SCHILLING,
SOUTHERN, TAYLOR, TURNER, WELSH, 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 English 171, 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 or minor 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; Ed. 228e, 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 78-79 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, 170, 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, 243, 250, 251, and 2 hours of Journalism 299.

Required courses in related fields. Speech 110, Eng. 128, 151, 152, and six units of upper division literature; Bus. Ad. 132; P.S. 101; Psych. 225.

Optional courses. The remaining five units may be selected from the following courses: Jour. 241, 242, 244, 246, 299 (up to 3 additional hours); and Eng. 254.

Choices from the generalization requirements. It is strongly urged that the following courses be selected in fulfilling the generalization requirements: Art 100; Bus. Ad. 131; Eng. 252; Psych. 100; Hist. 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 English. Eng. 128, 151, 152, and six units of upper division literature.

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

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, 217, 218, 252, and 254.

Description of Courses

Literature and Language

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

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

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

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

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

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

153 *World Literature*. 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. Credit, 3 hours.

201g *Development 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.

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. Not offered 1950-51.

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. Not offered 1950-51.

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. Not offered 1950-51.

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. Not offered 1950-51.

213 *Modern Fiction.* A study of the modern novel beginning with Meredith. Prerequisite: Eng. 152. Credit, 3 hours.

214 *Contemporary Fiction.* A study of important contemporary writers; their careers and distinctive traits, with particular attention to the relationship of their ideas with present-day problems. Prerequisite: Eng. 152. Second semester. Credit, 3 hours. Not offered 1950-51.

215 *Contemporary British Poetry.* British poetry of the twentieth century; techniques, aims, and significance. Prerequisite: Eng. 152. Credit, 3 hours.

216 *Contemporary American Poetry.* American poetry of the twentieth century; techniques, aims, and significance. Prerequisite: Eng. 152. Credit, 3 hours.

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. Not offered 1950-51.

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. Not offered 1950-51.

221 *American Literature.* From colonial times to the Civil War, including the growth of nationalism and the rise of the New England

school. Open to those specializing in other departments who have junior standing. Prerequisite: Eng 102. Credit, 3 hours.

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

223g *Milton*. The life of Milton, his relation to the literary and social background of his period, and textual study of his chief works. Prerequisite: Eng. 151. Credit, 3 hours.

226 *Short Story*. The development of the short story as a literary form; analysis of its technique through study of examples from the work of representative authors. Prerequisite: Eng. 152. Credit, 3 hours. Not offered 1950-51.

231g *Literature for Junior and Senior High School Students*. A study of prose and poetry which meet the interests, desires and capabilities of the high school boy and girl. Recent literature stressed. Prerequisites: Eng. 152, 232; Ed. 215. First 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.

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

253g *History of the English Language*. Development of the language from the earliest times to the modern period. Prerequisites: Eng. 128, 151. Credit, 3 hours.

254g *Current English Usage*. Recent changes and current trends in the language, with emphasis on American English and the factual basis of grammar. Prerequisites: Eng. 128, 151. Credit, 3 hours.

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. Credit, 3 hours.

300 *Seminar in English*. Individual research in any field of English. Credit, 3 hours.

310 *Seminar in English Education.* Primarily for in-service teachers. A general problem will be selected each time the course is offered. Each student will work individually on a phase of this. Credit, 3 hours.

Speech and Dramatics

Speech 110 *Elements of Speech.* Adjustment to the speech situation. Obtaining and organizing material. The conversational mode. Articulation, pronunciation, and tone. Bodily movement. Fee, \$1.00. Credit, 2 hours.

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

121 *Oral Interpretation.* Techniques of the reading aloud of prose and poetry. 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.* Preparation for and participation in intercollegiate debates. Prerequisites: Speech 110, 127 or consent of instructor. 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. Laboratory work

with school children during latter part of course. Prerequisites: Speech 110 or 121. 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. Not offered 1950-51.

238° *Radio Script Writing*. Principles of writing for radio and practice in the composition of radio scripts. Prerequisites: Speech 170. Eng. 235, or consent of instructor. Credit, 2 hours. Not offered 1950-51.

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 or 121. Credit, 3 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 or Speech 260 and concurrent registration in Speech 257. 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*. Survey of the journalistic field; study of the representative newspapers; concepts of news, news values, and reporting; laboratory practice in elements of newswriting. Prerequisite: Eng. 101. Fee, \$1.00. 2 lectures, 2 laboratory hours. Credit, 3 hours.

140 *Journalism: Reporting*. Study and practice in the coverage and writing of news; structure of the news story and development of news values; laboratory practice and experience as reporter on the *State*

Press. 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; interviewing and re-writing; advanced reporting. Prerequisite: Jour. 140. Fee, \$1.00. 1 lecture, 4 laboratory hours. Second semester. Credit, 3 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 background of court reporting. Prerequisite: Jour. 141. Fee, \$1.00. First semester. Credit, 2 hours.

242 *News Comment and Opinion.* The byline story, column, editorial and general field of newspaper policy and interpretation of current events. Prerequisite: Jour. 141. First semester. Credit, 2 hours.

243 *Copy Reading and Editing.* Intensive practice in copy reading and headline writing; use of the stylebook, accuracy and speed in handling copy; headlines; principles of makeup. Prerequisite: Jour. 141. Credit, 3 hours.

244 *History of Journalism.* Development of American journalism from colonial times to the present. Projecting the press as an institution against a background of the history of the nation. Prerequisite: Jour. 141. Second semester. Credit, 2 hours.

246 *The Longer Forms.* A study of the news feature, journalistic magazine article and the journalistic book. Prerequisite: Jour. 241 or 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.* Seminar in journalism with emphasis upon major difficulties encountered and editorial decisions required in the writing, handling and publishing of news. Prerequisite: Jour. 241 or 242. 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, TODD,
WALL.

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 18 hours should be in upper division courses. The following courses are required: Span. 101, 102, 103, 104, 203, 204, 205, 206, 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 78-79 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. 115, 116, 205, 207; Lat. 101, 102; Russ. 101, 102; Span. 151.

Description of Courses

French

Fr. 101 *Elementary French.* Gradual study of French sounds. Collateral teaching of reading, writing and speaking through the direct method. For beginners. First semester. Credit, 4 hours.

102 *Elementary French.* Continuation of Fr. 101. Optional outside reading. Prerequisite: Fr. 101. Second semester. Credit, 4 hours.

103 *Intermediate French.* Grammar review. Systematic study of verbs. Reading of a novel or a play. Conversation. Prerequisite: Fr. 102. First semester. Credit, 4 hours.

104 *Intermediate French.* Continuation of Fr. 103. Prerequisite: Fr. 103. Second semester. Credit, 4 hours.

120 *French Composition and Conversation.* Sight translation from English prose. Conversation. Prerequisite: Fr. 104. Either semester. Credit, 2 hours.

121 *French Composition and Conversation.* Continuation of Fr. 120. Prerequisite: Fr. 120. Either semester. 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 and conversation. 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 *Intermediate German*. Continuation of Ger. 103, with more emphasis on rapid reading. Prerequisite: Ger. 103. Credit, 4 hours.

106 *Scientific German*. Introductory readings in the various branches of science, with analysis of the special syntactical practices peculiar to scientific German. Prerequisite: German 103. Credit, 3 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 *Intermediate Russian*. Continuation of Rus. 103 with greater emphasis upon rapid reading and oral expression. Outside reading in the student's field of interest. Prerequisite: Rus. 103. Credit, 4 hours.

Spanish Language and Literature.

Span. 101 *Elementary Spanish*. A 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 *Intermediate Spanish.* Continuation of Span. 103 with greater emphasis upon rapid reading and oral expression. Prerequisite: Span. 103. Credit, 4 hours.

120 *Spanish Conversation.* Conversation to develop fluency and accuracy. 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.

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, Calderón de la Barca and others. Conducted in Spanish. Prerequisite: Span. 204 or 205. Credit, 3 hours.

210g *Spanish Literature of the Twentieth Century.* A study of the creative achievements of the Generation of 1898 and significant tendencies in the works of contemporary writers. Credit, 3 hours.

224g *Spanish American Literature.* A 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.

241g *Spanish American Civilization.* A study of the people, the growth of institutions and culture, and the aspirations of their great men. A knowledge of Spanish is not necessary. Credit, 2 hours.

Department of Home Economics

RANNELS (Head of Department), ELLSWORTH, ESSIG, KAGY, NORTON,
PICKETT

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 Curriculum

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, 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, 209, 217, 228h 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, 209, 211, 212, 214, 215, 217; Art 100 or 106; Ed. 228h, 260; and a minor in general science or social science.

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

Arts and Sciences Curriculums

Degree. The arts and sciences curriculum with an area of concentration in home economics leads to the degree of Bachelor of Science.

Generalization Requirements.

Students seeking the B.S. degree with an area of concentration in home economics must meet the generalization requirements of 40 semester hours outlined on pages 77-78 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 or 106; Chem. 110; and G.S. 110. 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, 205, 206, 207, 211, 212, 213, 219, 226.

Professional and Preprofessional Curriculums

You will find an outline of these curriculums giving any requirements made by this department on pages 80-89 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, first semester. 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.
- 205 *Large Quantity Cookery.* Theory and experience in preparing food for large groups. Laboratory work in the college dining hall.

Prerequisite: H.Ec. 105. Fee, \$2.00. Nine hours laboratory 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 preschool 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.

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 in home economic. Prerequisites: H.Ec. 104, 203, 206, 217. Board and room at regular college rate. Each 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.

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. First semester. Credit, 2 hours.

Department of Industrial Arts

NEEB (Head of Department), ANDERSON, BURK, CAVALLIERE, ELMORE,
GOODWIN, HAAS, KEITH, MERRITT

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 in aeronautics, architecture, mechanics, electronics and academics 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 curriculum found on pages 78-79 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, 136, 145, 154, 163, 164, 207, 208, 217, 218, 222, 224, 245, 258, 270, 283, 291, 292.

Emphasis on Electronics: I.A. 115, 116, 119, 120, 127, 154, 203, 205, 215, 216, 219, 251, 256, 272, 281, 282.

Emphasis on Mechanics: I.A. 101, 104, 107, 111, 112, 131, 145, 154, 157, 160, 179, 213, 223, 226, 227, 228, 231, 232, 233, 261, 262.

Emphasis on Aeronautics: I.A. 126, 127, 130, 131, 132, 179, 200, 204, 225, 234, 235.

Emphasis on Drafting: I.A. 103, 105, 106, 113, 124, 125, 141, 145, 154, 155, 156, 160, 201, 202, 224, 245, 253, 262, 270, 271, 276, 277, 278, 284, 285, 291, 292, 294, 295.

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. Prerequisite: I.A. 100. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

116 *Transmitter and Receiver Theory*. A study of oscillators, amplifiers, modulators, receivers, transmission lines, antennae, and propagation. Prerequisites: 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. Prerequisite: I.A. 100. Fee, \$6.00. One lecture, 3 hours laboratory. Credit, 2 hours.

120 *Principles of Vacuum Tubes*. Principles, construction and operation of various types of tubes, and application in electronic circuits. Prerequisite: I.A. 100. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

121 *Wood Work*. Basic types of furniture construction and repair suitable for use in school shops. No machine work. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

122 *Cabinet Making*. Principles of furniture construction, and correct use of hand tools and machines. 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.

126 *Aircraft Covering and Doping.* Fabric materials and testing, accessories, inspection of assemblies prior to covering, sewing of slip covers, rib stitching, repairs, hand doping, spray doping, including study of equipment used. Fee, \$4.00. One lecture and 3 hours laboratory. Credit, 2 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. Prerequisite: I.A. 100, 115. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

130 *Aircraft Woodwork.* Materials used, rib construction, wing construction, spar splicing, alignment of drag truss, general wood repairs, inspection, testing, and use of power and hand tools. Fee, \$4.00. One lecture and 3 hours laboratory. Credit, 2 hours.

131 *Aircraft Engines.* Disassembly and assembly of aircraft engines including complete top overhaul. Timing of engines, synchronizing magnetos, carburetion, ignition and oil systems. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.

132 *Airplane Mechanics.* Types of wood rib construction, use of power sewing machine, covering, doping and painting, riveting, and uses of metals for aircraft construction. Fee, \$6.00. 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. Fee, \$6.00. One lecture, 6 hours of laboratory. 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 Drafting.* Consists of graphical layout of shafts, bearings, pulleys, belts, clutches and standard machine parts and fastenings. Designed to meet the needs of those preparing for work as draftsmen. Prerequisite: I.A. 155. Fee, \$3.00. Two lectures and 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.

161 *Properties of Materials.* Laboratory and class work in analyzing the properties of materials in terms of their use in machines and construction. Prerequisite: I.A. 134. Fee, \$5.00. Credit, 2 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. Prerequisites: College Algebra and Trigonometry, or equivalent. 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. Prerequisite: I.A. 100. Fee, \$6.00. Two lectures, 4 hours laboratory. 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. Prerequisite: I.A. 116. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

216g *Radio Frequency Tests and Measurements*. Design, construction and operation of advanced types of testing equipment with application to laboratory and field work. Prerequisite: I.A. 116. Fee, \$6.00. Two lectures, 4 hours laboratory. 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.

222g *Geometry of the Steel Square*. Use of steel square and layout of irregular roofs, geometrical problems, and marquetry and their application to the fields of building and construction and design. Prerequisite: I.A. 208 or equivalent. Fee, \$6.00. Two lectures and 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. Prerequisite: I.A. 104.: Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.

228 *Auto Ignition and Repairs.* Repairing, adjusting, and testing generator, starting motors, magnetos, and other electrical equipment in an automobile. Prerequisite: I.A. 101. Fee, \$6.00. One lecture, 6 hours laboratory. 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. Fee, \$6.00. One lecture, 6 hours laboratory. 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. Prerequisite: I.A. 231. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.

233 *Electric Arc Welding.* Making satisfactory butt welds, lap welds, ridge welds, T-welds. Prerequisite: I.A. 179. Fee, \$20.00. One lecture, 6 hours laboratory. Credit, 3 hours.

234g *Aeronautical Instructional Materials.* Design, construction, and operation through models and mockups of visual aid devices for aviation construction for use in pre flight and mechanics courses in aviation. Prerequisites: I.A. 103, 111, 121 or 179. One lecture and 3 hours laboratory. Fee, \$4.00. Credit, 2 hours.

235g *Aeronautical Equipment Design.* Design and construction of aviation overhaul tools and accessories including the making of hand tools and special devices used in the maintenance and overhaul of aviation equipment. Prerequisites: I.A. 103, 111, 121 or 179. Fee, \$4.00. One lecture and 3 hours laboratory. Credit, 2 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.

254 *Machine Design.* Such topics as shafts, bearings, pulleys, belts, clutches, standard machine parts and fastenings. Prerequisite: I.A. 155, 161; Math. 122. Fee, \$3.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

256g *Broadcast Station Operation and Maintenance.* A study of Federal Communications Commission Laws and problems included in the commercial operator's license, control board and control room operation and technique, and principles of broadcast transmitter operation. Prerequisite: I.A. 115 or amateur license. Fee, \$3.00. Two lectures and 4 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. Prerequisite: I.A. 213. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.

262g *Mechanical Equipment in Architecture.* General layouts and investigation of heating, air conditioning, electrical, sanitary, elevators, dumb waiters, etc., with emphasis on radiant heat and refrigeration in the home. Prerequisites: I.A. 105, 106. Fee, \$3.00. One lecture and 3 hours laboratory. Credit, 2 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.

283g *Practical Application of Building Materials*. Practice in the application of industrially accepted mixes of Portland cement, white cement, plasters, lime mortar and stucco, together with instruction and experience in the reinforcing, curing, coloring and finishing of these materials. Prerequisites: I.A. 103, 105. Fee, \$10.00. Two lectures and 4 hours laboratory. Credit, 3 hours.

284g *Home Building*. Factors involved in the building of a contemporary home including: functions of owner, architect, and contractor, selection of site, design, working drawings, specifications, materials and equipment, contracts and legal procedures, financing, construction and supervision, landscaping and maintenance. For teachers, drafts-

men, contractors and prospective homeowners. Fee, \$5.00. Two lectures and 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 layout for beams, trusses, straps, plates and joints generally used in building design. Prerequisite: I.A. 161. Fee, \$6.00. Two lectures and four 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.

294g *Architectural Drafting*. Architectural design of gymnasium, grandstand, stadium, and schools with emphasis given to acoustics of auditoriums. Prerequisites: I.A. 202, 262. Fee, \$3.00. One lecture and 3 hours laboratory. Credit, 2 hours.

295g *Architectural Drafting*. Multistory building design; stress given to building codes and ordinances with special emphasis on documents and specifications covering public buildings. Prerequisite: I.A. 202. Fee, \$3.00. One lecture and 3 hours laboratory. Credit, 2 hours.

Library Science

BACHELOR (Librarian)

L.S. 201 *Libraries and Society*. A history of libraries, library agencies and services, with particular emphasis on the school library in the modern world and librarianship as a profession. Credit, 3 hours.

202 *Books and Publishing*. A survey of the materials and methods of writing and of publishers and publishing from early times to the present. Credit, 3 hours.

203 *Book Organization*. The principles and practices of the Dewey Decimal classification, cataloging, techniques, subject headings, alphabeting and filing. Fee, \$1.00. Credit, 3 hours.

204 *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.

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.

223g *Advanced Book Organization*. Emphasis on problems in acquisition, recording and organizing of library materials in high school and community libraries. Prerequisite: L.S. 203. Fee, \$1.00. Two lectures and 4 hours laboratory. Credit, 2 hours.

224g *Advanced Reference Service*. Emphasis on special high school and adult reference materials and techniques, bibliography, and government publications for curricular and extra-curricular enrichment. Prerequisite: L.S. 204. Fee, \$1.00. Credit, 2 hours.

225g *Reading and Communication*. Modern communication and its social and psychological effects through various media, considered in relation to the school library collections and services for youth. Prerequisite: L.S. 205. Fee, \$1.00. Credit, 2 hours.

226g *Current Library Problems*. Reading in professional library literature on unsolved problems and current issues of librarianship as related particularly to the school library. Prerequisite: L.S. 206. Credit, 2 hours.

251g *Library Materials for Children*. Introduction to the use of books and related materials available for children. Develops ability to select and integrate vital books and materials into the school curriculum and a free-reading library program. Prerequisite: L. S. minor or instructor's approval. 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

WEYLER (Head of the Department), GENTRY, LYON, ZACHER

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 is necessary. In fact a student's ability in mathematics serves as an excellent criterion of his future success 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. For students who choose mathematics as their major teaching field, forty-five or more hours, including the following courses, Math. 119 (or 106, 107, 118), 120, 122, 123, 221, 222, 246 are required. Two or more other courses on the 200 level are to be taken in the junior and senior years after consultation with the adviser. 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 Ed. 228m.

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 78-79 of the catalog.

Area of Concentration.

Required Courses. The following courses are required: Math. 119 (or 106, 107, 118) followed by 120, 122, 123, 221, 222 and three 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 applications of mathematics. Designed for students who do not intend to take more than one course in mathematics. Does not presuppose high school algebra or geometry. Each semester. Credit, 3 hours.

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*. Identities and equations, logarithms, solution of triangles. 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.

170 *Analytical Mechanics Statics*. Study of vectors; forces in equilibrium. Prerequisites: Math. 122, 123 (co-requisite). Second semester. Credit, 3 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; other topics as time allows. Prerequisite: Math. 123. Credit, 4 hours.

222g *Advanced Calculus*. Continuation, Math. 221. Improper definite integrals; differential equations; complex variables; other topics as time allows. Prerequisite: Math. 221. Credit, 4 hours.

223g *Symbolic Logic*. Main features of a logic adequate to modern mathematics and science. The basis in language. Notions which play a part in all systematic thinking. Prerequisite: Math., 8 hours, or Phil. 200, or Eng. 252. Credit, 3 hours.

226g *Statistics*. An introduction to the mathematical theory of statistics. Prerequisite: Math. 123. Credit, 3 hours.

241g *Theory of Functions*. Concepts of limits, continuity, derivatives, epsilon proofs. Introduction to the theory of functions of a complex variable. Prerequisite: Math. 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.
- 246g *Mathematics for the Secondary School Teacher*. Choice of topics from higher algebra, trigonometry, and geometry. Prerequisite: Ed. 228m. Credit, 4 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.
- 310 *Seminar in Mathematics Education*. Curriculum studies in secondary school mathematics; topics and methods of instruction in "general mathematics," analytical geometry and calculus. Seven and one half hours of laboratory. Credit, 3 hours.

Department of Military and Air Sciences

C. MCFARLAND (Head of Department), ACREE, BEHLING, CURTIS,
DAVIS, DEWATER, FOLEY, HILLYER, HUFFMAN, KENNEDY,
W. MCFARLAND, MARTIN, NEWTON, 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 may 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 complete two years of R.O.T.C. training. Two years of R.O.T.C. training is a prerequisite for graduation unless the student is properly exempted. 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 courses, 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 Admissions and Standards 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 in drill each week, and receive 1.5 semester hours of credit. Advanced students spend 4 hours in class and 2 hours in drill each week, and receive 3 semester hours of credit. Regular attendance in class and drill is required. Advanced students are required to attend one summer camp for approximately 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. Total pay will not exceed a period of 570 days. Travel pay, uniforms, and food are furnished at camp. 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 student registering for R.O.T.C. 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* (First Year). Instruction in military organization, geographical foundations of national power, hygiene and first aid, military mobilization and demobilization,

leadership, drill and exercise of command, evolution of warfare, military psychology and personnel management, maps and aerial photographs, military policy of the United States, National Defense Act and ROTC, and military problems of the United States. Two lectures, 2 drills per week. Credit, 1.5 hours.

102 *Basic Military Science* (First Year). Continuation of M.S. 101. Prerequisite: M.S. 101 or equivalent. Two lectures, 2 drills per week. Credit, 1.5 hours.

103 *Basic Military Science—Field Artillery* (Second Year). Instruction in leadership, drill and exercise of command, F.A. organization, F.A. material, service of the piece, instruments, communications, and transportation. Prerequisite: M.S. 102 or equivalent. Two lectures, 2 drills per week. Credit, 1.5 hours.

104 *Basic Military Science—Field Artillery* (Second Year). Continuation of M.S. 103. Prerequisite: M.S. 103 or equivalent. Two lectures, 2 drills per week. Credit, 1.5 hours.

A.S. 103 *Basic Air Science Air Force* (Second Year). Instruction in orientation, leadership, drill and exercise of command, aerodynamics and propulsion, weather and navigation, applied air power, and administration. Prerequisites: M.S. 102 or equivalent. Two lectures, 2 drills per week. Credit, 1.5 hours.

104 *Basic Air Science Air Force* (Second Year). Continuation of A.S. 103. Prerequisite: A.S. 103 or equivalent. Two lectures, 2 drills per week. Credit, 1.5 hours.

Advanced Courses

M.S. 201 *Field Artillery*. Branch tactics and techniques in Army Field Artillery with view to eventual qualification as battery officer. Instruction in leadership, drill and exercise of command, duties of the battery executive, weapons, gunnery, tactics, communications, and supply. Prerequisite: M.S. 104 or equivalent. Four lectures, 2 drills per week. Credit, 3 hours.

202 *Field Artillery*. Continuation of M.S. 201. Prerequisite: M.S. 201. Four lectures, 2 drills per week. Credit, 3 hours.

203 *Field Artillery*. Tactics and techniques peculiar to requirements of army officers. Instruction in command and staff, military teaching methods, military law, military administration, the military team, leadership, drill and exercise of command, surveying, communications, gunnery, fire direction center, tactics, and new developments. Prerequisite: M.S. 202. Four lectures, 2 drills per week. Credit, 3 hours.

204 *Field Artillery*. Continuation of M.S. 203. Prerequisite: M.S. 203. Four lectures, 2 drills per week. Credit, 3 hours.

A.S. 201 *Air Force*. Branch tactics and techniques in Air Force Administration with view to eventual qualifications as an administrative officer. Instruction in orientation, leadership, drill and exercise of command, logistics, air operations, and administration and supply. Prerequisite: A.S. 104 or equivalent. Four lectures, 2 drills per week. Credit, 3 hours.

202 *Air Force*. Continuation of A.S. 201. Prerequisite: A.S. 201. Four lectures, 2 drills per week. Credit, 3 hours.

203 *Air Force*. Instruction in Air Force Administration and Supply as a specialized course. Instruction in Air Force management, military teaching methods, administration and supply, leadership, drill and exercise of command, career development, military law and boards, and the Inspector General. Prerequisite: A.S. 202. Four lectures, 2 drills per week. Credit, 3 hours.

204 *Air Force*. Continuation of A.S. 203. Prerequisite: A.S. 203. Four lectures, 2 drills per week. Credit, 3 hours.

Department of Music

HARELSON (Head of the Department), AUTENRIETH, BARKLEY, BOWERS,
BULLOCK, MILES DRESSKELL, NADINE DRESKELL, GALE, GRANGER,
HARGISS, HOLFORD, KEATING, LAWRENCE, MCKERNAN,
MILLER, QUAID, RICKEL.

Courses offered by the Music Department are planned to meet the needs of students registered under any of the Teacher Education, or Arts and Sciences Curriculums.

Admission Tests 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, violoncello, band and orchestral instruments, the fee is \$40.00 per semester. For one half hour lesson per week the fee is \$27.00 per semester.

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 these 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 vocal and instrumental music. The major teaching field in vocal music prepares for teaching all vocal classes commonly taught in high schools. The major teaching field in instrumental music is for those desiring to teach band, orchestra and instrumental ensembles. The major teaching field in vocal and instrumental music is for those preparing to teach in both fields.

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, 303, 310 and 390. All students taking this field are advised to take 8 hours of foreign language.

Major Teaching Field in Instrumental Music. The courses listed below are required. Freshman year, Mus. 117, 118; major instrument, 4 hours; piano, 4 hours; ensemble, 2 hours. Sophomore year, Mus. 115, 116, 119, 120; major instrument, 4 hours; piano, 4 hours; ensemble, 2 hours. Junior year, Mus. 215, 219, 235, 236; major instru-

ment, 4 hours; minor instrument, 2 hours. Senior year, Mus. 225; major instrument, 4 hours; minor instrument, 4 hours. Graduate year, Mus. 226g, 245g, 255g, 284g, 288g, 292g, 303, 310 and 390.

Major Teaching Field in Vocal and Instrumental Music. Only students with a good background in both vocal and instrumental music will be accepted as candidates for the major teaching field in vocal and instrumental. The courses listed below are required. Freshman year, Mus. 113, 117, 118; voice, 4 hours; piano, 4 hours; ensemble, 2 hours. Sophomore year, Mus. 115, 116, 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, 303, 310 and 390.

Minor Teaching Field in Music. The minor in Music consists of at least 15 semester hours. For a minor in vocal music the following sequence of courses is suggested: Mus. 111, 112, 117, 118, 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.

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 78-79 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."

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 relationships, modulation, and dictation. Prerequisite: Mus. 119. Credit, 2 hours.

121 *Class Piano*. For kindergarten-primary majors. Elements of keyboard technique and sight-reading of folk song material. Two lessons a week. Credit, 1 hour.

122 *Class Piano*. Sight-reading, improvisation, and kindergarten-primary rhythms. Prerequisite, Mus. 121. Two lessons a week. Credit, 1 hour.

123 *Class Piano*. 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 instruction. 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 hours each.

201, 202, 203, 204 *Violoncello Private Instruction*. Participation in formal public recitals required. Prerequisites: Mus. 104, and 201-204 taken in order listed. 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 vocal majors. Third year, first semester. Three times a week. Credit, 2 hours.

219 *Instrumentation and Conducting*. Required of instrumental majors. 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*. For music majors. Surveys the entire field of music education on the national, state, and local scale. Includes philosophy, curriculum problems, methods, and materials. Third year, first semester. Prerequisite: Mus. 111, 112. 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.

303 *Modern Music*. An approach, through recorded music and discussion, to the works of composers of the twentieth century, beginning with Debussy, Strauss and Stravinsky, on through Schonberg and the French Six to the post World War I years of atonalism, Italian moderns, Ravel and French music of the periods between wars, American Music from Daniel Gregory Mason to Leonard Bernstein, modern Russian works, post War II French music, and the music of modern Mexico and South America. Prerequisite: Mus. 226g. Credit, 2 hours.

310 *Seminar in Music Education*. Discussion of specific teaching problems: assigned readings and reports. Study and performance of new materials in the field. Five lectures and 10 hours laboratory. Credit, 2 hours.

Department of Health and Physical Education

LAVIK (Head of Department), MURPHY (Director of Women),
BUDYNKIEWICZ, DOHERTY, KAJIKAWA, KINZLE, ONOFRIO, QUINN, RUTH,
STEVERSON, THOMSON, DEVLIN, EVANS, GESAS, GILLANDERS, JOY,
KLANN, PLOCK, STECK.

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.

Required courses. Certain activity courses, listed below, are required of all students. These courses should be completed in the freshman and sophomore years. This activity requirement is based on the four general objectives of physical education:

1. The development and improvement of organic vigor.
2. The development of desirable neuro-muscular coordinations.
3. The development of social experience in group games.
4. The development of desirable habits of recreation.

Students may be excused from the required activity courses only upon filing a written authorization in the Registrar's Office from the College Health Service.

In certain activity classes uniforms are required. These may be obtained at the College Book Store.

Men. Freshman men are required to register for P.E. 107, 108. Exceptions may be made for members of freshman team squads who register for P.E. 111, 112, and who continue as squad members during the season. In such cases P.E. 111, 112 may be substituted for P.E. 107, 108 which are otherwise required for completion of the activity requirement. After the freshman year, men may select their remaining two semesters of physical education activity from any of the departmental offerings. Except in unusual cases, no man may earn more than .5 hours of credit in activity during any one semester.

No freshman may be admitted to departmental professional courses. Admission to such courses is limited to sophomores who have maintained an index of at least 1.75 during the freshman year.

Statements concerning intramural and intercollegiate athletics may be found in the section of the catalog devoted to special group activities.

Women. Freshman 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 required physical education from any of the departmental physical education activity offerings. Opportunity is afforded 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 women who accumulate one hundred (100) points through intramural competition or through membership on varsity teams in either sport or 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 elect some of the following courses: P.E. 110, 117, 119, 120, 131, 132, 141, 167, 191, 215, 223, 224, 225, 226, 232. For the same purpose, men may elect courses from the following: P.E. 110, 141, 167, 191, 217, 218, 230.

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. 171, 172, 173, 174, 190, 191, 192, 223, 224, 225, 226, 227, 245 or 236, 253, 255; Ed. 228p. Men should choose additional courses from the following: P.E. 195, 196, 217, 218, and five hours from P.E. 230, 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; and Ed. 228p. Women choose 21 hours from the following: P.E. 221, 225, 226, 227, 232, 236 or 245, 237, 253, 254, 255; Ed. 32, 233, 237, 265. Men take a minimum of 24 additional hours of physical education including P.E. 217, 218, and 254.

Fifth year. It is suggested that students choose electives from the following courses: P.E. 253g, 254g, 255g, 281g, 282g, 300, 301, 335, 336, 340; Ed. 237g.

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, 167, 224, 227, and choose the remainder from the following: P.E. 171, 172, 173, 174, 190, 191, 192, 225, 253, 254; Ed. 228p; 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. 100, 167, 215, 234, 237, 242, 267; Ed. 228p. Optional courses suggested for women: Zool. 171, 172; P.E. 236, 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 78-79 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, 190, 191, 192, 221, 242.

Required for Men Only. The following are required: P.E. 195, 196, 217, 218, 230, 236; 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. 232, 236, 238, 245, 253, 255, 281, 282; Zool. 111, 163; Chem. 110, 111, 180; Psych. 214, 225, 240; Ed. 216, 226, 233, 237.

(2) Emphasis on Health Education. P.E. 242, 245; Soc. 120; Ed. 216; Zool. 111, 163; H.Ec. 101, 104; Psych. 231, 234.

(3) Emphasis on Recreation. P.E. 105, 110, 119, 121, 131, 141, 181, 230, 232, 238, 253; Art 100, 105, 117, 121, 151, 171; I.A. 121, 123, 133; Ed. 212, 216, 226, 232, 265; Psych. 231, 232.

(4) Emphasis on the Therapies. Physiotherapy, Zool. 165; Bot. 220; Psych. 214, 215, 240; Soc. 225; Chem. 110, 111, 180. Occupational Therapy, Psych. 214, 215; Zool. 163; Art 105, 117; Speech 121; I.A. 121, 123, 133; Mus. 111, 118.

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 *Athletics—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.* This course involves actual practice in scoutcraft and camping activities. Emphasis is placed upon leadership techniques for boys and men, and the philosophy of scouting organization and practice. Credit, 2 hours.
- 195 *Professional Activities.* History, organization and techniques of physical activities and minor sports. Present day problems confronting teachers. Two semesters required of men specializing in physical education. Credit, 2 hours.
- 196 *Professional Activities.* Continuation of P.E. 195. Prerequisite: P.E. 195. Credit, 2 hours.

211 *Athletics—Men.* Third year. Participation in football, basketball and other first semester varsity sports. Five times a week. Credit, $\frac{1}{2}$ hour.

212 *Athletics Men.* Third year. Participation in baseball, track and other second semester varsity sports. Five times a week. Credit, $\frac{1}{2}$ hour.

213 *Athletics—Men.* Fourth year. Participation in football, basketball and other first semester varsity sports. Five times a week. Credit, $\frac{1}{2}$ hour.

214 *Athletics—Men.* Fourth year. Participation in baseball, track and other second semester varsity sports. Five times a week. Credit, $\frac{1}{2}$ hour.

217 *Coaching.* Theory and techniques of basketball, track and baseball. Lecture and laboratory, 3 times a week. Credit, 2 hours.

218 *Coaching.* Theory, techniques and officiating of football. Lecture and laboratory, 3 times a week. Credit, 2 hours.

219 *Officiating Football, Basketball, Baseball and Track.* A study of rules and the mechanics of officiating used in football, basketball, baseball and track. Credit, 2 hours.

252 *Intramural Athletics.* The organization and administration of intramural athletics. Programs of activities, rules, and units of competition that are workable in secondary and elementary school programs. 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 *Team Sports*. Classes in volleyball, hockey, softball, basketball, soccer, speedball and track. Four times a week. Credit, ½ hour each.

113, 114 *Team Sports*. Intermediate classes in volleyball, hockey, softball, basketball, soccer, speedball and track. Prerequisite: P.E. 112. Four times a week. Credit, ½ hour each.

118 *Rifle*. Twice a week. Credit, ½ hour.

165 *Team Sports*. Advanced classes in volleyball, hockey, softball, basketball, soccer, speedball and track. Prerequisites: P.E. 111, 112, 113, and 114. Four times a week. Credit, ½ hour.

166 *Team Sports*. Continuation of P.E. 165. Prerequisite: P.E. 165. Credit, ½ hour.

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 required. 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. 181. Three times a week. Credit, 2 hours.

192 *Dance Production*. Continuation of P.E. 191. Three times a week. Credit, 2 hours.

223 *Directing Games of Low Organization*. Class organization and methods of teaching games suitable for indoors and outdoors in elementary 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: P.E. 171, 172, 173, 174 or the equivalent. 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: P.E. 171, 172, 173, 174 or the equivalent. 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.* Theory and limited practical experience in production of pageants, festivals, and dance programs. Sources and materials for dances, staging, costuming and accompaniment. Prerequisite: P.E. 190. Credit, 2 hours.

253g *Methods of Officiating.* Qualifications of officials, techniques of officiating, interpretation of rules, and opportunity to qualify as an NSWA rated official in tennis and volley ball. Prerequisites: P.E. 171, 172, 173, 174. 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 *Beginning Square Dance.* Twice a week. Credit, ½ hour.

106 *Advanced Square Dance.* Twice a week. Prerequisite: P.E. 105 or the equivalent. 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.

119 *Beginning Folk Dance.* European, early American, and Latin American dances. Twice a week. Credit, ½ hour.

120 *Advanced Folk Dance.* Prerequisite: P.E. 119. Twice a week. Credit, ½ hour.

121 *Beginning Golf.* Twice a week. Credit, ½ hour.

122 *Advanced Golf.* Twice a week. Credit, ½ hour.

131 *Beginning Tennis.* Twice a week. Credit, ½ hour.

132 *Intermediate Tennis.* Twice a week. Credit, ½ hour.

- 133 *Advanced Tennis*. Twice a week. Credit, $\frac{1}{2}$ hour.
- 134 *Beginning Badminton*. Twice a week. Credit, $\frac{1}{2}$ hour.
- 135 *Intermediate Badminton*. Twice a week. Prerequisite: P.E. 110. Credit, $\frac{1}{2}$ hour.
- 136 *Advanced Badminton*. Twice a week. Prerequisite: P.E. 110 or the equivalent. 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 *Beginning 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. Prerequisite: P.E. 242. Three times a week. Credit, 3 hours.
- 220 *Playground Leadership*. A course designed to present the organization and administration of a physical education program at the elementary school level. Particular attention is given to games of low organization, softball, volleyball, and track for elementary grades. Required for the elementary certificate. Separate sections for men and women. Credit, 2 hours.
- 221 *Camp Counseling*. The role and duties of a camp counselor; organization of a camp program, including activities and administration. Second semester. Credit, 2 hours.
- 230 *Community Recreation*. Significance, functions, program content, methods of operation, leadership, finance, and legal aspects of municipal recreation. Credit, 3 hours.

231 *Social Recreation Leadership.* The development of leadership in recreational activities for home, school, club and other social groups. Credit, 2 hours.

236 *Organization and Administration of Physical Education.* Organization, administration, and supervision of the physical education program in elementary and high schools. Separate sections for men and women. Prerequisite: P.E. 109. Credit, 3 hours.

237 *Organization and Administration of Health Education.* The areas of health service, health instruction and physical education are shown in their relationships to each other and to the general educational scheme in schools and communities of different sizes. Required of minors in health education. Prerequisite: P.E. 215. Credit, 3 hours.

238 *Related Activities.* Organization and administration procedures involved in the development of school activities closely related to the physical education teaching program. Includes GAA, programs, sports, field and play days, pep clubs and marching squads. Open to juniors and seniors. Credit, 2 hours.

241g *School Health Problems.* An advanced and more intensive study of the school health program. Designed to help teachers develop skills in screening techniques, analysis of individual pupil health needs, and use of community resources. Prerequisites: P.E. 242; Ed. 260 or teaching experience. Credit, 2 hours.

242 *Health Education.* This course includes the three main divisions of the school health program—Health Services, Health Instruction, Healthful School Living and the roll and duties of the classroom teacher in relationship to each of these divisions, so far as the health of the school child is concerned. Practical experiences in screening tests and techniques, survey of available free materials, discussion of available health texts and health readers, and previewing of usable films in each of the broad areas in health education. Prerequisite: P.E. 100. 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.

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 activi-

ties. 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. Prerequisite: Must be 20 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. 191, 192. 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. 191, 192. Credit, 2 hours.

300 *Seminar in Physical Education*. Practices and procedures in the various areas of health and physical education. Prerequisite: P.E. major. Credit, 3 hours.

301 *Seminar in Health, Physical Education and Recreation*. Continuation of P.E. 300 covering different areas of problems in the field. Either semester's work may precede the other. Open to graduate students. Credit, 3 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.

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. Credit, 2 hours.

Department of Psychology

SKINNER (Head of Department), BALL, BARNES, GRIMES, GURNEE,
HOLLY, SMITH, YOUNG

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 78-79 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.

114 *Applied Psychology.* Application of psychological principles in business, industry, medicine, law and personnel. Prerequisite: Psych. 100. 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. Prerequisites: Psych. 100. Fee, 50 cents. Each semester. 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.

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. 100, 200, 213, 224, or 234. Fee, \$1.00. Two lectures, 2 hours laboratory. 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, propaganda, suggestion, imitation, competition, cooperation, and leadership. Prerequisites: Psych. 100 and Soc. 120. Credit, 3 hours.

226g *Behavior Problems and Juvenile Delinquency*. A review of investigations on behavior problems and delinquency; factors contributing to delinquency; prevention and correction; case studies. Prerequisite: 3 courses in psychology. Credit, 2 hours.

227 *Adjustments in Marriage*. Techniques for happy marriage; compatibility factors; understanding the opposite sex; reconciling common maladjustments; divorce problems; understanding the child; making marriage work. Prerequisites: Psych. 100 or Soc. 120. Fee, \$.50. Credit, 3 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 in psychology or equivalent. Fee, \$1.00. Credit, 3 hours.

239g *Psychology of Motivation and Emotions.* An analysis of underlying motives and emotions functioning in human development. Emphasis is placed on applications to educational and clinical psychology. Prerequisites: Psych. 100, 213, and 224. Credit, 2 hours.

240 *Psychology of Personality.* The elements of personality, and the conditions which determine the pattern and the direction of its growth. Methods of judging personality and character. Prerequisite: at least 3 courses in psychology. Credit, 2 hours.

242g *Recent Problems in Psychology.* Seminar based on readings and discussions of contemporary problems in psychology. Prerequisite: 12 hours in Psychology. Credit, 2 hours.

244 *History of Psychology.* Major problems and trends of modern psychology traced from their beginnings to the present including the development of the modern scientific approach. Prerequisite: 12 hours in psychology. Credit, 3 hours.

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, 220, 224. 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 publications on the facts, laws, and theories of learning, with reference to problems of education. Prerequisites: Psych. 200, 213. Credit, 2 hours.

313 *Recent Studies in Educational Psychology.* Survey of the latest experimental reports relevant to current problems of teaching. Prerequisites: Psych. 200, 213. Credit, 2 hours.

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.

Phil. 150 *Logic.* Principles and methods of correct thinking. Examples of logical fallacies and ways of detecting them. Credit, 3 hours.

200 *Introduction to Philosophy.* Fundamental issues and contributions in philosophy. The development of philosophical thought from the late medieval to modern times. Open to upperclassmen *only*. Prerequisites: Psych. 100, Soc. 120. Each semester. Credit, 3 hours.

202 *Principles of Ethics.* The meaning of right and wrong, the development of moral understanding, the ethical foundations of personal and social relations. Prerequisites: Psych. 100; Philos. 200. Credit, 3 hours.

203 *Readings in Ancient Philosophy.* Readings in the philosophical classics of ancient Greece and Rome with special emphasis upon the works of Plato and Aristotle. Prerequisite: Phil. 200. Credit, 3 hours.

204 *Recent and Contemporary Developments in Philosophy.* Emphasis upon the contributions of James, Dewey, Bergson, and Whitehead. Prerequisite: Phil. 200. Credit, 3 hours.

205g *Social Philosophy.* A consideration of important contributions to social thinking, with particular reference to the ideological conflicts of modern times. Prerequisites: Phil. 200 and Soc. 120. Credit, 3 hours.

Department of Sciences

BATEMAN (Head of Department), CHRISTENSEN, ELDREDGE, HANSON, KLOSE, KOELSCH, KRUMBOLTZ, LARMORE, MCCLEARY, MAUGHAN, MILLER, MORTENSEN, RAWLS, STAHNKE, WAGER, WILLIAMS, WOOD.

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. 111; 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) 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 Sciences. The work in this field should be selected so that the student will receive basic training in both animal and plant science. As part of the generalization science requirement, he must take G.S. 100.

Undergraduate courses required: Bact. 110; Biol. 204; Bot. 110, 244; Chem. 110; Physics 110; Zool. 111, 112, 210, 254; Bot. or Zool. 260. Optional courses: Biol. 190, 290; Bot. 160, 171, 172, 260; Zool. 163, 171, 172, 260, 271, 276.

Graduate required courses: Bot. 242g; Bot. or Zool. 230g. Optional graduate courses: Bot. or Zool. 230g; Bot. 243g; Zool. 231g, 232g, 233g, 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, 105, 203, 204, 215; Geol. 151, 152; Chem. 110, 114 or Bot. 110; Zool. 111. 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 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. 111; Chem. 110 or 111, 112, 141, 211, 212; Phys. 111, 112, 113, 200; Geog. 151. Optional course. . . At least 8 semester hours selected from physics and chemistry under guidance of adviser. Recommended courses for graduates: Chem. 215, 251g, 252g, 260g, 271g, 272g, 280g; Phys. 231g, 241g, 242g.

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 is given below. The student may select the courses in any one of the following fields that fits his interests and requirements.

Minor Teaching Field in Biology. Basic courses in both plants and animals should be included in the student's program. Bot. 110, 220, 230; Zool. 111, 112, 171, 172, 210, 230.

Minor Teaching Field in Chemistry. Chem. 111, 112, 141, 142, 180, 260, 280.

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; Chem. 110, 114; Phys. 111, 112, 200, 213; Geol. 151.

Minor Teaching Field in Physics. Phys. 111, 112, 113 (or 121, 122), 200, 210.

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 78-79 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. For either of the first four fields of emphasis the student has the option of G.S. 100, or Phys. 110; Chem. 110 and 180, but only with the consent of his adviser. Students interested in ecological or wildlife phases of biology must take Geol. 151. Geog. 100 and 105 are strongly recommended. For the fifth field of emphasis, that of physiological zoology, the student must take the physical science courses as outlined. In so doing, a student can also be equipped to enter medical school while qualifying in physiological zoology.

(1) Emphasis on General Biology. Required hours, 56. Required courses: Bact. 110; Biol. 204; Bot. 110, 230, 242, 244; Zool. 111, 112, 210, 230, 254; Bot. or Zool. 260. Optional courses: Biol. 190, 290; Bot. 160, 171, 172, 220, 248; Zool. 163, 171, 172, 231, 232, 233, 270, 271, 276; Bot. or Zool. 260.

(2) Emphasis on Botany. Required hours, 48. Required courses: Bact. 110; Biol. 204; Bot. 110, 160, 171, 172, 230, 242, 244. Optional courses: Ag. 105, 183, 184, 216, 235; Biol. 190, 290; Bot. 243; Zool. 210, 230, 232, 270.

(3) Emphasis on Wildlife. Required hours, 56. Required courses: Biol. 204; Bot. 110, 230, 242; Zool. 111, 112, 210, 230, 232, 271, 276, either 231 or 233 or 270. Optional courses: Bact. 110; Biol. 190, 290; Bot. 243, 244; Zool. 163, 254, 231 or 233 or 270.

(4) Emphasis on Zoology. Required hours, 48. Required courses: Biol. 204; Bot. 110; Zool. 111, 112, 163, 210, 230, 232, 254, 260. Optional courses: Bact. 110; Biol. 190, 290; Bot. 230, 242, 243, 244; Zool. 171, 172, 231, 233, 270, 271, 276.

(5) Emphasis on Physiological Zoology. Required hours, 70. Required courses: Bact. 110; Biol. 204; Bot. 110; Chem. 111, 112, 141, 211, 212; Zool. 111, 112, 163, 210, 231, 232, 254, 260; Phys. 111, 112. Optional courses: Bot. 150, 160, 172, 260; Chem. 142, 215, 280; Zool. 171, 172, 233, 270, 273.

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: (Bot. 110, Zool. 111), or G.S. 110; Phys. 111, 112, 113; Math. 119, 120, 122, 123; Chem. 110 or 111, 112, 141, 142, 211, 212, 251, 252. Optional courses: Chem. 215, 260, 271, 272, 273, 280, 281; Phys. 200, 210, 215, 220; Math. 221; Geol. 151, 152, 211, 212.

(2) Emphasis on Physics. Required courses: (Bot. 110, Zool. 111), or G.S. 110; Chem. 110 or 111, 112; Math. 119, 120, 122, 123; Phys. 111, 112, 113, (or 121, 122), 215, 219, 220, 221, 231. Optional courses: Geol. 151, 152, 211, 212; Chem. 131, 141, 142, 201, 252; Math. 222, 226, 243, 244, 257; Phys. 200, 210. In order to qualify for recommendation to graduate work, the following courses are recommended: Math. 221; Phys. 222, 241, 242; French or German.

(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. 111; Geog. 105; 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 concerning the sciences are listed in the section of the catalog on pre professional and professional curriculums. These programs include the following: 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. Prerequisites: G. S. 100, 110; Geog. 100. Fee, \$1.00. Credit, 3 hours.

301 *Seminar: Teaching of Science in Secondary Schools*. Review and survey of current publications. Consideration and solution of problems dealing with the field. Credit, 2 hours.

Bacteriology

Bact. 110 *Introduction to Bacteriology*. The fundamental principles of bacteriology, and hygienic, industrial, domestic, and agricultural applications. Prerequisites: Chem. 110 or 111; G.S. 110; or Bot. 110 and Zool. 111. Fee, \$5.00. Two recitations and 6 hours laboratory. Credit, 4 hours.

210g *General Bacteriology*. Comparative morphology, taxonomy, and physiology of bacteria. Prerequisite: Bact. 110 and Chem. 211, and consent of instructor. Fee, \$6.00. Three lectures and 6 hours laboratory. Credit, 5 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.

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.

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.

260g *Plant Microtechnic*. Microscopic anatomy of plant tissues and methods of preparation and identification. Prerequisites: Bot. 110, 171. Fee, \$5.00. Two lectures and 6 hours laboratory. Credit, 4 hours.

Zoology

Zool. 111 *General Zoology*. The form, activities, relationships and economic importance of the main groups of invertebrate and vertebrate animals together with the fundamental principles of zoology. Fee, \$4.00. Three lectures, 1 four-hour laboratory. Credit, 4 hours.

112 *General Zoology*. Continuation of Zool. 111. Prerequisite: Zool. 111. Fee, \$4.00. Three lectures, 1 four-hour laboratory. 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. 111. 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, conservation, etc. Prerequisites: Bot. 110; Zool. 111, 112. Fee, \$4.00. Three lectures, 3 or more hours laboratory and field trips. Credit, 4 hours.
- 231g *Poisonous Animals of Arizona*. Form, activities, and identification of venomous animals of Arizona and others thought venomous. Prerequisite: Zool. 112. Fee, \$4.00. Three lectures, 1 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.
- 256 *Physiology Laboratory*. Experiments and problems. Structure, coordination and functioning of human organs. Prerequisites: Zool. 171-172; Chem. 110. Fee, \$4.00. Six hours laboratory. Credit, 2 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 identification, 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.

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. Prerequisite: Chem. 110 or 111. Fee, \$4.00. Second semester, 3 lectures, 3 hours laboratory. Credit, 4 hours.

131 *Qualitative 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 *Qualitative Organic Analysis*. Systematic identification of organic compounds. Prerequisite: Chem. 212. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 4 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, mining, water, sanitation, and fuels. Prerequisites: Chem. 180 or 212. Credit, 3 hours.

271g *Instrumental Analysis*. Advanced analysis utilizing instruments in qualitative and quantitative determinations. Prerequisites: Chem. 142 and 212. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.

272g *Advanced Inorganic Chemistry*. Periodic relationships, preparation and applications of common elements and compounds. Prerequisite: Chem. 142. Credit, 3 hours.

273g *Advanced Inorganic Chemistry Laboratory*. Preparation of the less easily produced inorganic compounds. Prerequisite: Registration or credit in Chem. 272g. Fee, \$5.00. One lecture, 3 hours laboratory. Credit, 1-2 hours.

280g *Biochemistry*. Chemistry of animal and plant life including biological compounds, tissues, foods and digestion, enzymes, etc. Prerequisites: Zool. 172; Chem. 180 or 212. Three lectures. Credit, 3 hours.

281g *Biochemistry Laboratory*. Qualitative and quantitative chemistry of carbohydrates, fats, proteins, enzymes; milk, blood and urine analysis. Prerequisite: consent of instructor. Fee, \$6.00. Three to six hours laboratory. Credit, 1-2 hours.

Physics

Phys. 110 *Introduction to Physics*. Survey of the fundamental principles of physics, presented with a minimum of mathematics, to give the student an understanding of the concepts of physics as applied to everyday life. Fee, \$4.00. Three lectures, 3 hours laboratory. Credit, 4 hours.

111 *General Physics*. The fundamental principles of mechanics, heat, and sound. Elementary trigonometrical functions will be developed as needed. Prerequisite: high school algebra and geometry. Fee, \$4.00. Three lectures, 3 hours laboratory. Credit, 4 hours.

- 112 *General Physics*. The fundamental principles of magnetism, electricity, and light. Prerequisite: Phys. 111. Fee, \$4.00. Three lectures, 3 hours laboratory. Credit, 4 hours.
- 113 *Introductory Modern Physics*. Fundamental principles of spectroscopy, X-rays, nuclear theory, cosmic rays, photoelectricity, and other recent developments in physics. Prerequisites: Phys. 112, algebra and trigonometry. Credit, 3 hours.
- 121 *Engineering Physics*. The principles of mechanics, heat, electrostatics, and magnetostatics presented from the engineering viewpoint. Prerequisite or corequisite: Math. 122. Fee, \$5.00. Four lectures, 3 hours laboratory. Credit, 5 hours.
- 122 *Engineering Physics*. The principles of current electricity, sound, light, and modern developments presented from the engineering viewpoint. Prerequisite or corequisite: Phys. 121 and Math. 123. Fee, \$5.00. Four lectures, 3 hours laboratory. Credit, 5 hours.
- 215 *Electronics*. A study of the principles of electronics with applications to vacuum tube circuits. Prerequisites: Phys. 112; Math. 107, 108 or equivalent. Credit, 3 hours.
- 219 *Advanced Mechanics*. A study of mechanics from the viewpoint of the Calculus. Prerequisites: Math. 123 and Phys. 112, or equivalent. Fee, \$5.00. Three lectures and 3 hours laboratory. Credit, 4 hours.
- 220 *Advanced Heat*. Principles of heat and the kinetic theory of matter with an introduction to thermodynamics. Prerequisites: Math. 123 and Phys. 112, or equivalent. Credit, 3 hours.
- 221 *Advanced Electricity and Magnetism—D.C.* A study of electrostatics, magnetostatics, and direct current electrical phenomena. Prerequisites: Math. 123 and Phys. 112, or equivalent. Fee, \$5.00. Three lectures and 3 hours laboratory. Credit, 4 hours.
- 222 *Advanced Electricity and Magnetism A.C.* Study of alternating current theory with an introduction to electronics. Prerequisite: Phys. 221. Credit, 3 hours.
- 231g *Advanced Light and Optics*. A study of geometrical and physical optics with an introduction to spectroscopy. Prerequisites: Math. 123 and Phys. 112, or equivalent. Fee, \$5.00. Three lectures and 3 hours laboratory. Credit, 4 hours.
- 241g *Atomic Physics*. A study of extra-nuclear phenomena from an advanced viewpoint. Prerequisites: Math. 123 and Phys. 112, or equivalent. Credit, 3 hours.

242g *Nuclear Physics*. Study of intra-nuclear phenomena from an advanced viewpoint. Prerequisites: Math. 221 and Phys. 113 or equivalent. Credit, 3 hours.

Geology

Geol. 151 *Physical Geology*. Earth changes due to temperature, wind, water, ice, volcanoes, earthquakes, etc. Fee, \$2.00. Three lectures, 3 hours laboratory a week, a minimum of 18 hours field work a semester. Credit, 4 hours.

152 *Historical Geology*. Origin and chronological succession of events that have developed our earth and its life. Fee, \$2.00. Three lectures and 3 hours laboratory a week, a minimum of 18 hours field work a semester. Credit, 4 hours.

211 *Mineralogy*. Mineral structure and identification based on crystal forms, physical properties and chemical composition. Prerequisites: Chem. 112 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.

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.

105 *Meteorology*. Weather elements, meteorological instruments, weather maps, forecasting and their relation to activities of man. Prerequisite: Geog. 100. Fee, \$1.00. Credit, 3 hours.

120 *Map Making and Interpretation*. 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, soils, 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 or 101. 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. Prerequisites: Geog. 100, 204. 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. Prerequisites: Geog. 100, 101. Credit, 3 hours.

213g *Political Geography.* Geographic factors influencing the development and growth of national states and their relationships with each other. Prerequisites: Geog. 100 or 101, or Hist. 101 and 102, or P.S. 101. Fee, \$1.00. 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. Prerequisites: Geog. 100, 101. Fee, \$1.00. Credit, 3 hours.

Department of Social Studies

WYLLYS (Head of the Department), KRENKEL, SMITH, TILDEN,
VAN PETTEN

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. 200, 201, 202, 203, 204, 205, 206, 207, 208 209, 210, 211, 212, 213, 214, 215, 216, 217. 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; Bus. Ad. 130, 132; Geog. 101, and 18 hours in upper division courses chosen from the following: Hist. 200, 201, 202, 203, 204, 206, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217; P.S. 201, 204, 206; Bus. Ad. 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; Bus. Ad. 130; Geog. 101, and 18 hours in upper division courses chosen from the following: Hist. 200, 201, 202, 203, 204, 205, 206, 207, 208 209, 210, 211, 212, 213, 214, 215, 216, 217; P.S. 200; 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; Bus. Ad. 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; Bus. Ad. 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 Bus. Ad. 130;

second year, Hist. 101-102 or 103-104; choice of P.S. 103, 104; Geog. 101; Bus. Ad. 132, or Hist. 105-106, 109, 110; third and fourth years, choice of Hist. 200, 201, 203, 204, 206, 208-209, 211, 213, 214, 215, 216, 217; P.S. 201, 204, 206; Bus. Ad. 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, 8, 109, 110, 111-112, 113; Bus. Ad. 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; Bus. Ad. 132; Geog. 101; third and fourth years, choice of Hist. 200, 201, 202, 203, 204, 205, 206, 207, 208-209, 210, 211, 212, 213, 214, 215, 216, 217; P.S. 203, 204, 205, 206, 207; Geog. 203, 204, 205, 206, 212, 215.

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; Bus. Ad. 130; second year, Hist. 101-102 or 103-104; P. S. 103, 104; choice of Hist. 105-106; Bus. Ad. 132; Geog. 101; third and fourth years, choice of Hist. 203, 208-209; P. S. 200, 201, 203, 204, 205, 206, 207; Bus. Ad. 205, 206, 219, 262, 265; Geog. 203, 204, 205, 206, 212, 215, 217.

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 78-79 of the catalog, an area of concentration of 39 semester hours must be completed as outlined below. Certain other courses in this department may be substituted for those listed below, with the consent of the adviser.

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, 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; Bus. Ad. 131; Geog. 100, and 6 hours from the following

upper division courses: Hist. 200, 201, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217.

(2) Emphasis on Political Science. Select 9 hours from the following: P. S. 103, 104; Hist. 105, 106, 109; Bus. Ad. 131; Geog. 100. Select 6 hours from the following: P. S. 203, 204, 205, 206, 207; Geog. 203, 204, 217.

(3) Emphasis on General Social Studies. Select 9 hours from the following: P. S. 103, 104; Bus. Ad. 131, 132; Geog. 100. Select 6 hours from the following: P.S. 203, 204; Bus. Ad. 205, 219, 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. Each semester. Five times a week. Credit, 5 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 Oriental 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.

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.

200 *The Middle Ages.* The development of Western Europe from the fall of Rome to the Renaissance with particular emphasis on the social and cultural development. Prerequisites: Hist. 101-102 or equivalent. Credit, 2 hours.

201g *History of the British Empire.* The growth and development of the British Empire with particular stress on the commercial, economic, and governmental aspects of the empire. Prerequisites: Hist. 101-102 or Hist. 105-106. Credit, 2 hours.

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. First Semester. 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. First semester. 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. Second 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.

216g *American Biography Since 1860*. Considers the contributions of noted Americans in the scientific, cultural, philosophical, economic, and political development of the United States since 1860. Prerequisites: Hist. 103, 104. Second semester. Credit, 3 hours.

217g *Constitutional History of the United States*. The origin and development of the Constitution of the United States with special

emphasis on how it has been interpreted by the courts. Prerequisites: Hist. 103, 104. Credit, 3 hours.

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. First semester. 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. Second semester. Credit, 2 hours.

Political Science

P. S. 101 *Introduction to Political Science*. Principles of government, and theories of law and the state. First semester. Credit, 3 hours.

102 *State and Local Government*. Workings of the typical American State government, and its principles of administration. Second semester. Credit, 3 hours.

103 *Municipal Government*. Structure, methods and principles of American city governments and their administration. Second 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, first and second semesters. 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 1948-49

COLLEGE

Resident Students—Regular Session

	Freshmen	Sophomores	Juniors	Seniors	Graduates	Total
Men	1109	725	618	284	221	2957
Women	469	268	236	183	195	1351
	<u>1578</u>	<u>993</u>	<u>854</u>	<u>467</u>	<u>416</u>	<u>4308</u>
<i>Summer Session 1948</i>						
Men						1145
Women						894
Total						<u>2039</u>
<i>Extension and Correspondence</i>						
Men						114
Women						275
Total						<u>389</u>
<i>Vocational Training Courses</i>						
Men						473
Women						0
Total						<u>473</u>
<i>Total Registration in College</i>						
Men						4689
Women						2520
Total						<u>7209</u>
<i>Counted More than Once</i>						
Men						784
Women						351
Total						<u>1135</u>
<i>Net Enrollment</i>						
Men						3905
Women						2169
Total, net enrollment						<u>6074</u>
TRAINING SCHOOLS						
Boys						449
Girls						455
Total						<u>904</u>
GRAND TOTAL, NET ENROLLMENT						<u>6978</u>

Summary of Graduates 1948-49

Through May, 19496788

Bachelor's degrees—May 24, 1949

	Men	Women	Total
Bachelor of Arts	22	9	31
Bachelor of Arts in Education.....	120	153	273
Bachelor of Science	160	43	203

Total302 205 507

Master's degrees—May 24, 1949

Master of Arts in Education 29 17 46

Total331 222 553

Through May, 19497386

Bachelor of Arts In Education

- Sylvia Jones Adams
- Betty Frances Alkire
- *Charlyne Ruth Allen
- William Worth Allen
- Frank Rada Amado
- Charles Bradley Andrews, Jr.
- Betsy Cooper Azlin
- *Esther Florence Barker
- Norma Joyce Barkley
- Alfred Cavis Barnes, Jr.
- *Mary Jane Barr
- Robert Faris McPherson Baxter
- Donald F. Bell, Jr.
- Fred Bieber
- Goldie Bell Bishop
- Billie Marie Bobbitt
- *Anthony Boetto
- Rodolfo Gastelum Bologna
- *Ruth Carolyn Bonham
- Frank Noah Bostock
- James H. Boyd
- *Michael Courtney Breen
- Shirley Joan Brewer
- *Mildred Clark Bright
- Hildreth Brown
- *Theodora Mildred Bruner
- Jean Keech Bryant
- Leatha Elizabeth Bryant
- Lewis Richard Burch
- James Brodie Burhans
- Jose Maria Burruel
- Richard Reid Campbell
- James Eugene Carey
- Thora Eleanor Carlson
- Senon Arthur Castillo
- Geneva Bernice Chambers
- Albert Lafayette Cheek
- Everett Frank Childers
- Betty Constance Clochetti
- Alma Josephine Clarino
- Kenneth E. Coffin
- *Patricia Ann Conniff
- Louis Henry Coor
- Edward Eugene Corno
- Lem R. Cortright

- Betty Mae Coscarart
- *Martha Jane Cowles
- Barbara Jean Crandall
- *Frances Scott Creighton
- I. June Cross
- Janet Daou
- Eugene Miller Daugherty
- *Estherbel Denny
- Susan Adair DeRosier
- James Henry Dible
- George Edward Diggs
- Ernest Paul DiGregorio
- Ionia Rossetti Dixon
- Dorothy Lee Oglesby Dole
- Billie Jo Dombey
- Clyde Thomas Dougherty
- Marilyn Jane Downs
- Harriet Opthof Drach
- Shirlia Marie Dryer
- Virgie Naomi Dryer
- Margaret Imogene Dudley
- Virginia Anne Dunham
- Mary Elizabeth Dunsmore
- *Gladys Prather Dye
- Esther Mildred Ellingham
- Albert Winslow Elliott, Jr.
- William Richard Fitzgerald
- Juan M. Flores
- Robert Manuel Flores
- *Marjorie Matthews Foreman
- Charles Edwin Foster
- Faith Fraizer
- Gene Hutchison Francis
- *Dorothy Lorana Gardner
- Jerryl Irwin Gardner
- Robert Lloyd Garner
- Else Marie Gasperak
- Neille Jo Gavin
- Ruth Ann Gildea
- Lyda Louise Glenn
- Leona Larking Grove
- Jean Kurtz Haddock
- Levi Ray Haire

* Absentia

- Garth N. Hanchett
 •James Gregory Handgis
 Geneva Hankins
 Christopher C. Hansen, Jr.
 Joan Linnea Hansen
 Joy Dorlie Hansen
 William Doyle Hardy
 Alice F. Harris
 Jeannette Joyce Hedgpeh
 Barbara Jeanne Heflin
 Byron Richard Helsel
 •Helen Margaret Henderson
 Mary Jeanne Parks Hensley
 Harold Lee Henson
 George Clinton Hills
 Arthur Francis Hilsey
 Lessie Raye Vickers Hodgson
 Howard Edwin Homan
 Lois Peterson Horsley
 Myron C. Howard
 George Edward Huber
 Ivan C. Hugh
 Norma Dale Hyatt
 Meryl Irene Jacques
 Ethel Evans Jaenicke
 Rudolph Jaimes
 •Eleanor Malou Janssen
 •Neil Edwin Jarvey, Jr.
 William Julius Johnson
 Lucille Vaught Jolley
 Harry Bankhead Jones
 Lucille Christine Jones
 •Marjorie Adell Jones
 Wilber Thomas Joplin
 Ruby Hood Jordan
 Edward Casimir Karcz
 William E. Keegan, Jr.
 William Jason Kelley
 •Gladys Ann Kelly
 Tipton W. Killingsworth
 Devona Allen Kirby
 William Edward Kirkpatrick
 Joseph Kovach, Jr.
 •Bonnie Bird Krenek
 Naomi Johnson Kuhn
 Winifred Lahr
 Louise Langley
 Willard Frederick Langley
 •Dorothy Larson
 Arthur John Laughlin
 Darleen De Etta Lavold
 Leonard Earl Leach
 Anna May Lee
 Manuel T. Lerma
 Charles Robert Lewis
 Jo Ann Lewis
 Dolores Ellen Light
 Helen Christine Lind
 Edwin Long
 Mary Louise Rojas Lopez
 Salvador Rojas Lopez
 Ruby Sharp Love
 Evelyn Watson McBride
 Billie Sue McCullar
 Nadine Rutledge McDevitt
 Hazel Lee McDonald
 Thelma Venham McDonald
 •Beulah McCreary McDougall
 Rose Harpe McFee
 Luther Martin McKisson
 •Xora Doran McLeod
 Herbert Jordan McLure
 Paul Thomas Maholchic
 Emma Nathalia Manker
 Mary Phebe Manning
 Eugene Acosta Marin
 Olga Spiro Markichevich
 Larry Bruce Marton
 Neil Edward Matthew
 Adelia Ann Mattox
 James E. Franklin Maxwell
 •Lucille Kelly Mayer
 Lillian Castro Mendoza
 Shirley Macie Marie Merrill
 Albert Franklin Meyers
 Harold Miller
 Marlan Joseph Miller
 James Campbell Montgomery
 Eugenia Elinor Mosteiro
 Louise Ethel Mowat
 LaVerne Barbara Murray
 Ernest Eugene Nedd
 T. Jay Nelson
 Anna Maydean Nevitt
 Arthur Edwin Nicholson
 Elizabeth Jean Off
 Charlotte Oldenburg
 Paul Albert Ollerton
 Carl Herbert Olson, Jr.
 Elmer John Olson
 Lily Hing Ong
 Barbara Cathen Opfenring
 •Carl Osback
 Norman Lionel Overton
 Agnes Mae Palmer
 Betty R. Parsons
 Ruth Ollerton Patterson
 Wendell E. Patterson
 Thomas Eugene Pendergast
 Josephine M. Perea
 Jeff D. Perkins
 Frances Parsons Peterson
 Esther C. Phillips
 John Charles Phillips
 Melba Edgin Phillips
 Dorothy Adams Platt
 Emanuel John Pole
 Patricia Pauline Pouppirt
 Stephen Francis Pueyo
 Albert W. Puffer
 •Mayde Bird Purinton
 John David Ratliff
 Dorothy Eleanor Warren Ratts
 Roy Arthur Ratts
 Minnie Laird Raymond
 Ethel Jean Reeves
 Kathleen Elaine Reeves
 Donna Braden Rewick
 •Benjamin F. Ridge, Jr.
 •Hazel Helen Ridgway
 Allen Leonard Robinson
 Donald Gene Sapp
 Zena Cummar Sasser
 Wade J. Sawaja
 Shirley G. Schmitz
 Pearle Adele Schrecongost
 Eloisa Moran Segovia
 Margaret Helen Sessions
 James Franklin Sexton
 Barbara Oakes Sherley

•Absentia

- Earl Leonard Singley
Richard Allen Skinner
Jacquelin Ruth Smith
William Carson Smith, Jr.
Grace Elaine Solms
Al Soroka
Lydia Leona Stahnke
Douglas Henry Stellner
Yetta Ileen Stewart
Herold Frederick Stickle
Mabel Holmes Stierwalt
Helen Vera Stocker
Charlotte L. Stone
Cynthia George Stone
*James Strang, Jr.
Nieves Suarez
Wilbur Dean Sullivan
Mary Sue Swallow
David Lewis Tate
Esther Tovey Temple
*Elizabeth Terrill
*Emerald Morris Tibbetts
*Mary Eleanor Tolleson
- *Lucille Jeannette Toohey
Eleanor Virginia Turner
Linda Turner
*Joyce Evangeline Tverberg
*Kirby Lee Vidrine, Jr.
*Neil Vidrine
Lucy Alma Vogt
*George A. Wallis
Gilbert Nils Wang
Harold Leon Whetten
Eula Zumala White
Marjorie Charlene White
Edith Whitmer
Jessie F. Whitney
Audrey Anne Rowley Wickliffe
*Mildred Olden Wilkins
Daniel Foster Wilson, Jr.
Joseph Perry Wilson
James Powell Winningham
Lucille Greta Worm
Bernard Zapkin
Ernest M. Zinser

Bachelor of Arts

- Richard Artes
Catherine Frances Babbitt
Andrew Harrison Bowman, Jr.
Victor Bracke
William James Brennan
Marjorie Lou Brill
Amos Cambrie, Jr.
Virginia Mae Clark
Barbara Grandy Cortright
Frances Winifred Emery
Charles D. Filby
Paul Finch
Leonard Herbert Forman
Raymond J. Geerdes
Louis J. Gentile
Frederick Louis Robert Hill
- *Dorothy Hardy Jackson
Michael Howard Jordain
Marie Bullard Kagi
Susan Embach Lang
Hugh Robert O'Connell
Vincent L. Pentecost, Jr.
George F. Peterson
Willis Leonard Peterson
*Helen Goodman Pozil
Lester Puckett
Frank Vincent Rispoli
Giles Shivers
Ray Silvius
William Charles Terry
Baysol Reigh Turner

Bachelor of Science

- Lois E. Albertson
Elenor Lee Albritton
Margaret Allee
Douglas Ashley Armstrong
Polly Ann Asher
John Daniel Austin
William Oakes Balentine
Albert Leon Balk
Hugh L. Bankhead, Jr.
Wyota Jean Barrett
Dorothy Beach
William Andrew Beaulieu
Charles Robert Benner
Bernard W. Benson
Robert Berman
Bernard Bertrand
*Joseph Donald Bickman
Victor LeRoy Bjorklund
Mildred Alice Boidt
*Gertrude A. Boll
Raymond Allen Bourkney
Gerald Burton Boycks
William Ralph Bridgewater
Charles Monroe Brooks
Wesley David Brosvik
- Herman Brown
Thomas Bryson
Robert Hilton Buell
Kathryn Elizabeth Busch
Sarah Irene Cardwell
Clarence Leander Carpenter, Jr.
*George Edmund Cavin
George James Chartrand
*Kenneth Madison Cheesman
Charles Peter Clemens
John Peter Clemens
William Francis Colwell
Georgia Ann Combs
Louis M. Conner
Evelyn Wathen Cook
Harry Joseph Crozier
Dorrance Elmer Cruikshank
Robert Preston Curry
John Cuthbertson
Patrick John D'Addea
Patrick Daly Dalton, Jr.
Sidney S. Damron
Henry Alfred Darancetta
- * Absentia

- Edward F. Daugherty, Jr.
 Norman T. Davis
 •Vincent S. DeVita
 Thomas Henry Dickey, Jr.
 Lee Douglas Drake
 Gordon Wesley Driggs
 Walter Charles Dziarmaga
 Samuel Clifton Eikner
 George Daniel Eubank
 James Fattaleh
 Robert Gerald Fitzgerald
 Anne Bailey Flagg
 June Heiden Flick
 Glenn Ray Foster
 Frances A. Harris Fowler
 John Williams Frerichs
 Stanley M. Gardner
 William P. Garrity
 Kenneth Joseph Gates
 Alveena Mary Geisler
 Clay Edwin George
 Francis Percy Gibney, Jr.
 Calvin Coolidge Goode
 John Delos Goodrich, Jr.
 William Greiff
 Mary Louise Utt Grove
 Charles Raymond Groves
 George Anthony Hahn
 Clayton Eugene Hallickson
 Edith Ellen Hamilton
 D. G. Handgls
 Loy George Hatch
 John Edward Hatley
 Miles J. Herrod
 Tom A. Herz
 James Sexton Hill
 Lenard H. Hines
 Harry Hale Hofreiter
 Don Reginald Holcomb
 Lenora Ellen Holland
 G. B. Horne
 Chi-Chao Hsu
 Milton J. Husky
 Enid Ann Illian
 Donald Paul Jewell
 Ernie Franklin Johnson
 Lane Wesley Jones
 •Marcella Clemans Jones
 Robert Evan Jones
 Edward Lee Jorgensen
 Robert Charles Kacena
 Joseph Charles Kaspar
 Leonard Vane Keith
 Charles Edwin Kemp
 C. Ray Keplinger
 Glenn E. King
 James J. Kinsey
 Elizabeth Lee Knotter
 Charles Wilcox Kohlberg
 Norbert John Konzal
 •John Joseph Krieger
 Norman David LaPoff
 Robert Grant Larsen
 Vincent Laybe, Jr.
 Eugene Gordon Levi
 George Earl Lilley, Jr.
 John Reese Ling
 Glenn Albert McCollum
 •Allen M. McFaddin
 Robert Fain McKinley
 Frances Llewellyn Madden
 Paul Weston Maher
 •Robert Joseph Maholchic
 Ammon Joseph Mahoney
 •Gloria M. C. Mardus
 Waldo Francis Marion
 George Preston Martin
 Stanley Claude Martin
 A. C. Mason
 Sallie Willson Mathewson
 •Edgar Elmer Mattson
 John Richard Metzler
 Roderick Kennedy Meyers
 Donald Byrnes Mitchell
 Roma L. Mitchell, Jr.
 Roy Edward Mock
 Tom Lewis Moody
 Thomas Wilber Moore
 Harold Curtis Moseley
 Robert Douglas Murdoch
 Jean Myers
 Alfred Bollier Nedeau, Jr.
 Kay Hughes Nickels
 •Lillian Joy Owen
 Donald Bert Parry
 Robert Mitchell Parsons
 Shirley Lee Patterson
 Byron Gordon Payne
 Dorothy Irene Payne
 Richard William Peterson
 William Stanley Porter
 Eileen Lanigan Power
 John Virgil Pugh
 Delton Curtis Reopelle
 Helen Marie Hay Richardson
 Frank Leggat Robertson
 Norman Edwin Robinson
 Gerhart Albert Roseler
 Gertrude Larson Roseler
 James Dean Runion
 David Allan Russell
 Iver Louis Rustuen
 Marla Cristina Salgado
 William M. Saylor
 Charles Edward Seiverd
 Paul Cletus Sharkey
 William Buford Shaw
 Edward J. Shelley
 •Howard S. Shepard
 William Mitchell Simpson
 Everett Eugene Sims
 Margaret Sing
 Albert G. Smith
 Bruce Burwell Smith
 Glenn Lowell Smith
 •Katherine Ann Keller Smith
 Charles Gail Standage
 Charles Bennett Stauffer
 James Addison Stokely
 Samuel Richard Stokes
 •Leland F. Stuckwish
 William C. Suchak
 Francis Mike Svoboda
 James Arthur Tabor
 Louis A. Tryon
 Arthur C. Turner
 Gunner Harry Tweeten
 Elma Udall
 Margaret Jane Underhill
 Frank Britts VanDenburgh

• Absentia

Berne Richard Vaughan
 Charles Lester Vawter, Jr.
 James Vizcava
 Herlert George Voss, Jr.
 Oliver Orlin Waas
 *Robert Lee Weaver
 Eula Louise Welker
 Dorothy Ray Welton

Richard Harold Wilson
 Florence Elizabeth Wing
 Harriet Elinor Wittengen
 Stanley Edward Wood
 Carl James Wronko
 Martha Frances Yeager
 John Henderson Young, III

Master of Arts In Education

Vivian Lucille Amspoker
 Gady's Helen Benscoe
 Margaret Ruth Bigley
 Morton Alward Boss
 Margaret Carr Bouse
 Lorette C. Brinegar
 Marjorie Helsing Crays
 Marguerite Ione Cutland
 Richard Dean Davis
 Ben Reid Denton
 *Charles Ab Downing
 Margaret Imogene Dudley
 Allen A. Dutton
 Donald Lee Ellis
 John Ray Fawcett
 Luther Eugene Finley
 Ralph Edward Frantz
 Darl B. Gard
 Jerryl Irwin Gardner
 *Allen Franklin Hauelsen
 Harold Hascall Henshaw
 Emma Lapreel Davis Huber
 *Marjorie Lillian Karmenzind
 Darleen De Etta Lavold

Herning Wright Lawrence
 Malcolm Elwin Love
 *Ernest Leland McCllum
 Margaret Howie McGowan
 Martin John Marich
 Roland William Martz
 Charles Henry Merritt
 Ruth Brinker Muth
 Maria C. Salgado
 Grace Margaret Niehuis
 George Frederick Pugh, Sr.
 Lorenzo D. Rhoton
 McFraddie Robison
 Jennie S. Rverson
 W. Carl Schaufele
 *Thelma Favors Shaw
 James Walter Stitt
 Eldard Wayman Underdown
 George Vincent Wager
 Carl Clinton Weems
 Wm K. Whatcott
 Wallace Alfred Wilson

* Absentia

Senior Honors, 1949 With High Distinction

Frank Rada Amado
 Betsy Cooper Azlin
 Albert Leon Balk
 Dorothy Beach
 Victor LeRoy Bjorklund
 Jean Keech Bryant
 James Eugene Carey
 Vincent S. DeVita
 Charles D. Filby
 William Richard Fitzgerald
 June Heiden Flick
 Gene Hutchison Francis
 Edith Ellen Hamilton

Byron Richard Helsel
 Frederick Louis Robert Hill
 Dorothy Hardy Jackson
 Thelma Venham McDonald
 Paul Weston Maher
 Stanley Claude Martin
 Nei Edward Matthew
 Betty R. Parsons
 Paul Cletus Sharkey
 Yetta Helen Stewart
 Francis Mike Svoboda
 Elizabeth Terrill
 Louis A. Tryon

With Distinction

Lois E. Albertson
 Margaret Allee
 Richard Artes
 Wyota Jean Barrett
 Bernard W. Benson

Michael Courtney Breen
 William James Brennan
 Mildred Clark Bright
 Hildreth Brown
 Kenneth E. Coffin

Barbara Grandy Cortright	Edwin Long
Frances Scott Creighton	Paul Thomas Maholchic
I. June Cross	Robert Joseph Maholchic
Robert Preston Curry	Eugene Acosta Marin
Edward F. Daugherty, Jr.	Larry Bruce Marton
Norman T. Davis	John Richard Metzler
Mary Elizabeth Dunsmore	Thomas Wilber Moore
Frances Winifred Emery	Harold Curtis Moseley
Kenneth Joseph Gates	Arthur Edwin Nicholson
Nellie Jo Gavin	Hugh Robert O'Connell
Louis J. Gentile	Elizabeth Jean Oft
William Greiff	Dorothy Irene Payne
Mary Louise Utt Grove	Frances Parsons Peterson
Charles Raymond Groves	Albert W. Puffer
Jean Kurtz Haddock	Dorothy Eleanor Warren Ratts
George Anthony Hahn	Delton Curtis Scopelle
Levi Ray Haire	Frank Leggat Robertson
Christopher C. Hansen, Jr.	Gerhart Albert Roscler
Mary Jeanne Parks Hensley	Gertrude Larson Roseler
Lenard H. Hines	James Dean Runnion
Myron C. Howard	Donald Gene Sapp
Enid Ann Illian	Zena Cummard Sasser
Ethel Evans Jaenicke	Bruce Burrell Smith
Donald Paul Jewel	Lydia Leona Stahnke
William Julius Johnson	Lucille Jeannette Toohey
Ruby Hood Jordan	Joyce Evangeline Tverburg
Robert Charles Kacena	Elma Udall
Charles Edwin Kemp	Margaret Jane Underhill
Naomi Johnson Kuhn	Berne Richard Vaughan
Louise Langley	Edith Whittmer
Arthur John Laughlin	Ernest M. Zinser
John Reese Ling	

Awards

Alumni Scholarship.....	Thelma McDonald, Don Sapp, Louis J. Gentile
Arizona Society of Public Accountants' Award.....	James D. Runnion
Associated Men Students' Award.....	Louis J. Gentile
Band Fraternity Award.....	Juan Flores
Dunbar Award	Calvin Goode
English Department Prize	Don Sapp
Future Teachers of America Award.....	Virgie Dryer
Gibbons Award	Frederick Hill, Lorraine Curry
Harvard Club Award.....	Arthur J. Laughlin
Hillel Honor Award	Bob Berman
Home Economics Department Award.....	Betsy C. Azlin, Dorothy A. Platt
Kappi Delta Pi Pin.....	James E. Carey
McGrew Printery Journalism Award.....	Frank Rispoli
Moeur Award	James E. Carey
Women's Physical Education Award.....	Melba Edgin Phillips
Pi Kappa Delta Forensic Proficiency Award.....	
.....	Richard Artes, Donald Jewell
Religious Council Award.....	Don Sapp, June Cross
Theta Chi Epsilon Art Award.....	Neil Matthew
West Hall Award.....	Jean Reeves

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 Union 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:.....

.....
.....
.....
.....

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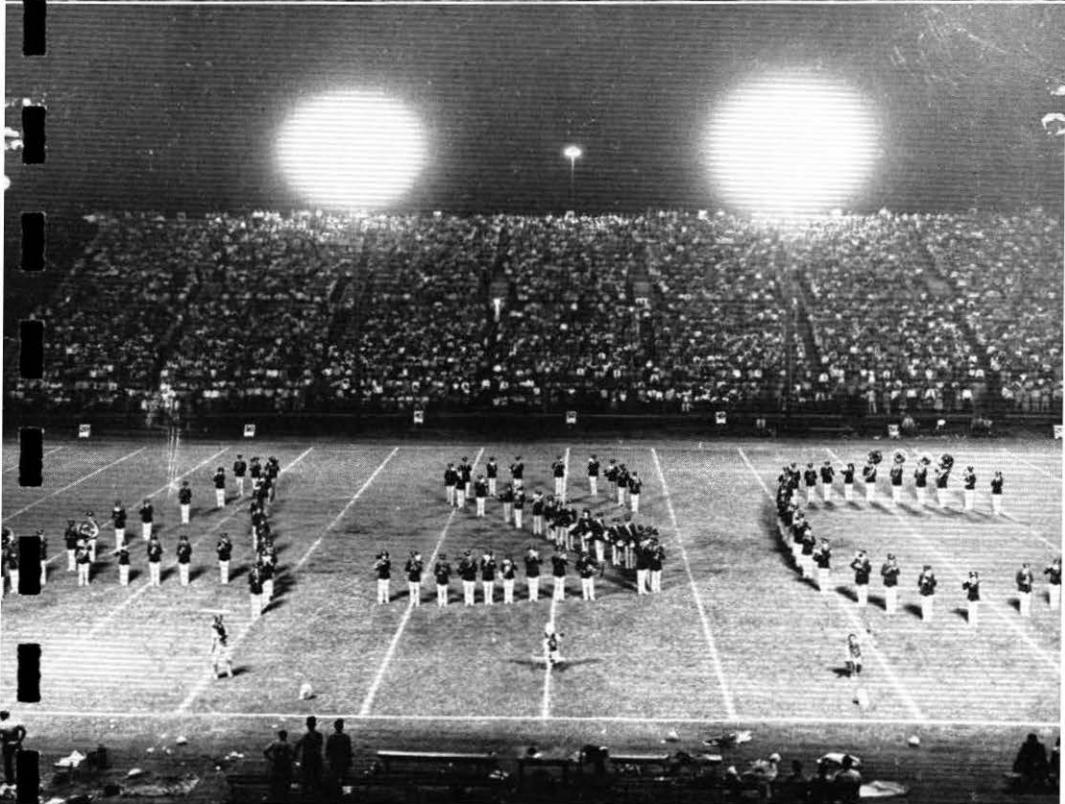
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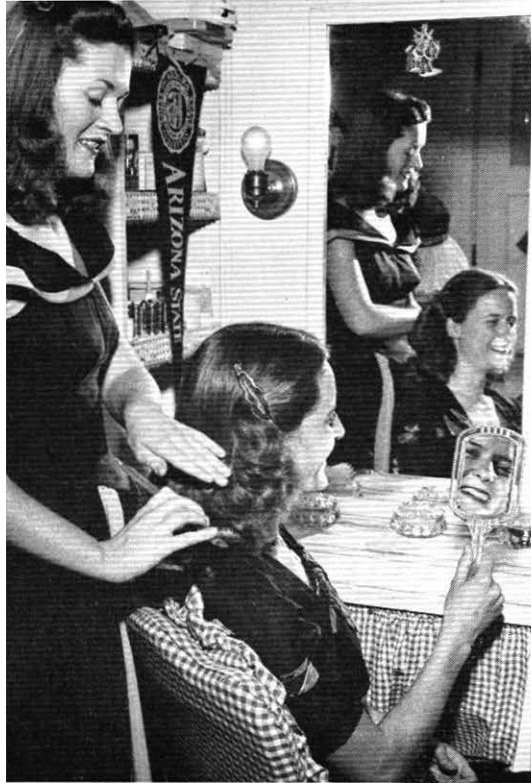
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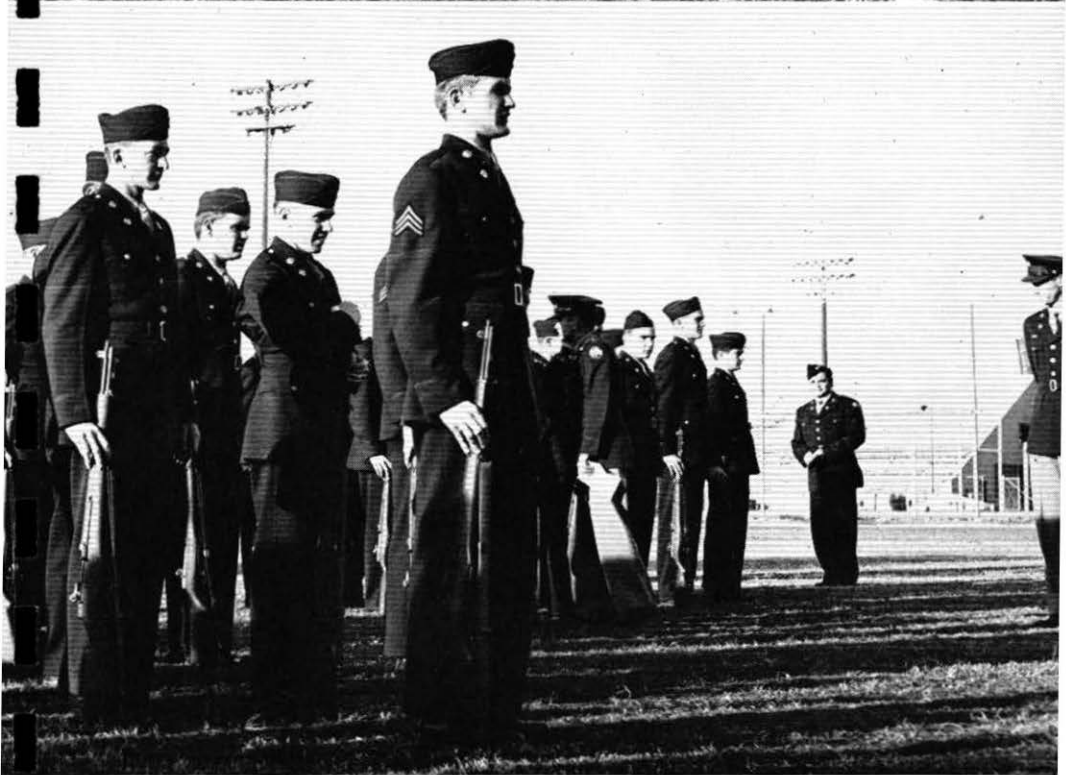
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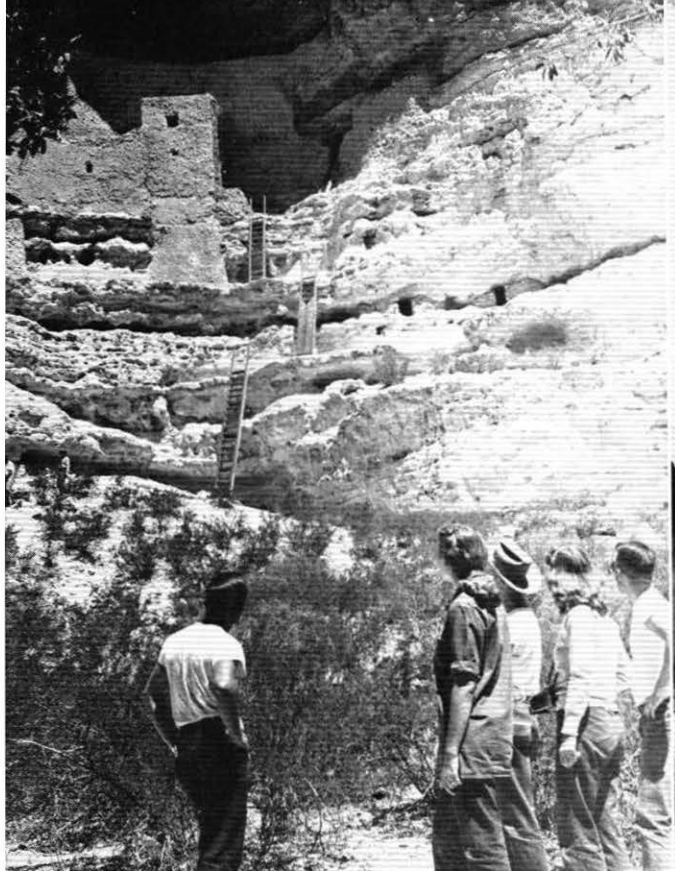
National recognition achieved by Sun Devil football team, band.



Campus dances provide highlights of dormitory life.



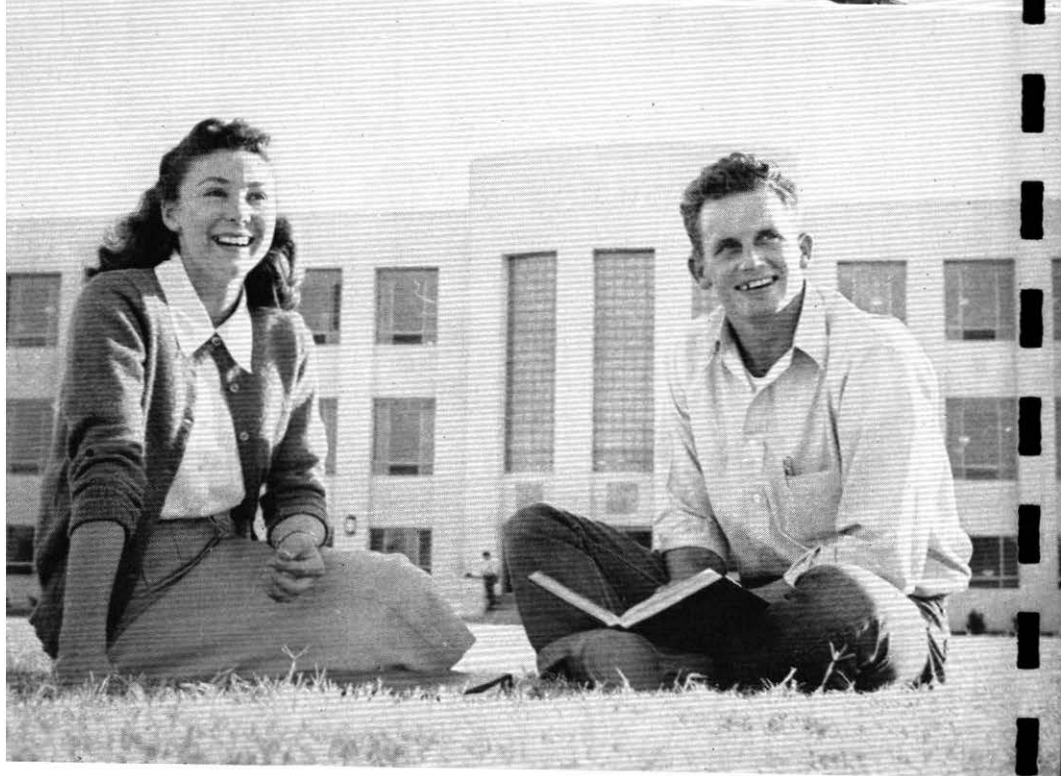
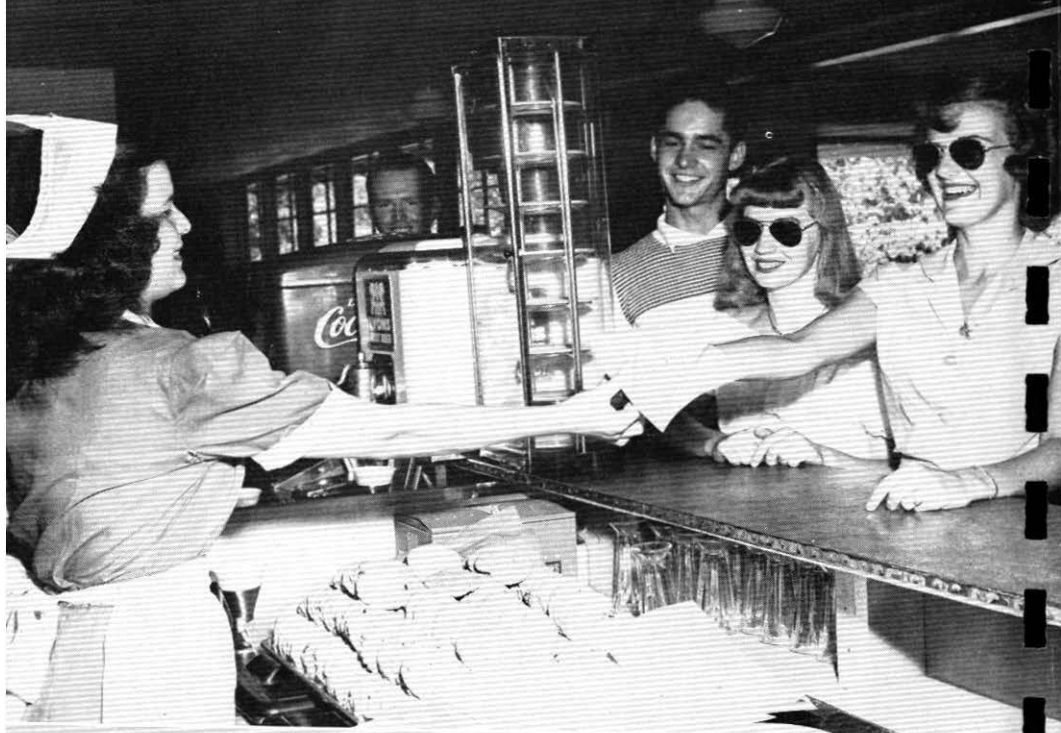
Many opportunities for military advancement offered via ROTC.



Field-trip students see Arizona's natural wonderland.



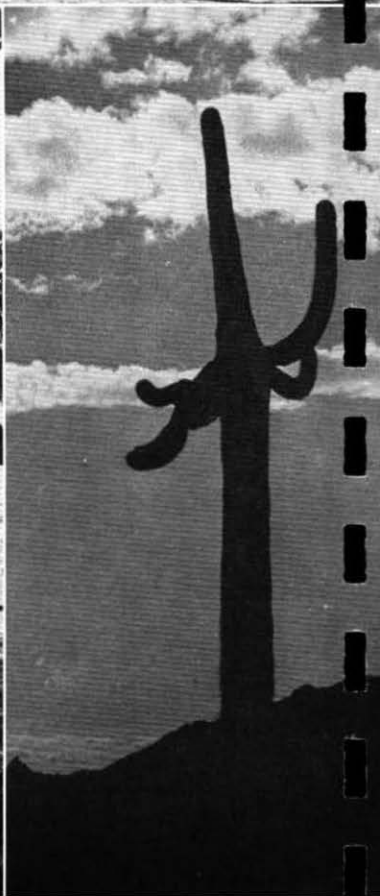
Informality keynotes student life on the ASC campus.



Spacious, inviting acres offer relaxation, fun at student center.



Old Main, Payne Training School . . . where Education is the vogue.



The beauty of the campus, a homecoming decoration, and desert flora.